ANNUAL PUBLIC HEALTH REPORT

OF THE

PROVINCE OF ORISSA

FOR THE YEAR

1939

AND THE

ANNUAL VACCINATION REPORT

FOR THE YEAR

1939-40

BY

Lt.-Col. G. VERGHESE, I.M.S.,
Director of Health and Inspector-General of Prisons, Orissa

SUPERINTENDENT, GOVERNMENT PRESS
CUTTACK, ORISSA
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[*Price—Rs. 10-11-0.*]

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Annual Public Health Report of the Province of Orissa for the Year 1939.

CHAPTER I.

Meteorology, Prices of grains, etc.



Drawn & Zincographed in the Bihar Survey Office, Gulzarbagh, Patna.

Angul ...	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Khondmals	13 14	13 2	12 12	12 0	12 0	11 11	11 10	10 14	11 1½	11 10	12 0	13 8	
Ganjam ...	10 6	10 6	10 6	10 3½	9 10	9 10	9 10	9 10	9 10	9 10	9 10	9 2	
Kotaput ...	14 0	14 0	14 0	14 0	14 0	13 0	13 0	12 12	11 6½	12 0	12 0	12 0	

Annual Public Health Report of the Province of Orissa for the Year 1939.

CHAPTER I.

Meteorology, Prices of grains, etc.

1. **Meteorology**.—The following statement of meteorological conditions in the Province of Orissa during the year 1939 is compiled from the monthly weather reports of the Director-General of Observatories:—

Year 1939.	Rainfall.			Departure from the normal of—				Remarks.
	Actual.	Normal.	Departure from normal.	Maximum temperature.	Minimum temperature.	Relative humidity.	Cloud.	
1	2	3	4	5	6	7	8	9
January	0·39	0·37	+0·02	+1·7	0	−2	+0·6	
February	0·35	1·00	−0·65	+1·5	+0·8	+1	−0·6	
March	0·85	1·06	−0·21	−0·3	−0·6	−5	+0·1	
April	0·52	1·15	−0·63	+1·3	+1·5	−1	+0·6	
May	0·65	·14	−2·49	+2·2	+2·0	−1	+0·9	
June	6·39	8·84	−2·45	+2·3	+0·4	−3	+1·1	
July	12·27	11·77	+0·50	−1·4	−0·6	0	+1·9	
August	12·56	12·38	+0·18	+0·6	0	−1	+1·4	
September	8·88	8·99	−0·11	+0·2	+0·1	+1	+2·3	
October	8·79	5·43	+3·36	−0·5	+1·5	+5	+3·0	
November	1·03	2·13	−1·10	−1·0	−0·5	−1	+1·7	
December	0·28	0·32	−0·04	−0·8	+1·1	+4	+1·6	

The total rainfall in the province during the year under report was 52·96″ i.e., 3·62″ or 6·4 per cent in defect over the usual fall as against 51·75″ in the previous year.

2. **Price of common grain**.—The average price of common rice varied during the year under review from 9 seers and 12 chhataks to the rupee in the district of Ganjam to 16 seers to the rupee in the district of Angul, but in the majority of the districts it remained over 13 seers as against 14 seers in the previous year.

The following statement shows the monthly average price of common rice at the headquarters of the districts of the province for the year 1939:—

Statement showing the monthly average price of common rice (cheapest) at the headquarters markets of the districts of the Province of Orissa, for the year 1939.

Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.
Cuttack ...	16 6½	17 1	17 1	16 0	15 12	15 8	14 7	14 1¾	13 2	13 2	13 7¼	13 6
Balasore ...	15 0	14 0	14 0	14 0	13 10	13 3	13 0	12 0	12 3	11 2	11 12	13 0
Puri ...	16 11¾	16 6½	17 1	15 3½	15 12	13 10½	14 1¾	14 7	13 7	11 15½	13 2	12 4½
Sambalpur	18 0	18 0	17 11½	16 14	14 12¼	12 13	12 10½	14 0	13 3	13 6	16 8	15 12½
Angul ...	18 1¼	17 14	17 11¾	16 6½	16 7½	15 0	14 11	14 6¾	13 15	13 12¼	16 0	16 11
Khondmals	13 14	13 2	12 12	12 0	12 0	11 11	11 10	10 14	11 1½	11 10	12 0	13 3
Ganjam ...	10 6	10 6	10 6	10 3½	9 10	9 10	9 10	9 10	9 10	9 10	9 10	9 2
Kotaput ...	14 0	14 0	14 0	14 0	14 0	13 0	13 0	12 12	11 6½	12 0	12 0	12 0

CHAPTER II.

Vital Statistics.

1. **Area and population.**—The total area of the Province of Orissa as calculated on the reports of the district officers is 32,206 square miles and the population according to the census of 1931 is 8,009,559 excluding the Orissa States. The average population per square mile is 249. The birth and death rates and also the other returns shown in this report have been calculated on the census population of 1931 and relate as in the previous year only to a population of 7,073,697 which excludes the population of large areas of Ganjam and Koraput districts called the "agency areas", where there is no arrangement for collection of vital statistics.

2. **Provincial birth and death rates.**—The provincial birth rate for the year 1939 was 34·92 per mille as against 33·76 in 1938 and the death rate was 28·18 in 1939 as against 29·49 in 1938. Thus the birth rate in 1939 showed an increase by 1·16 and the death rate a decrease by 1·31. This improved condition in the vital occurrences was probably due to lower incidence of malaria in the year under report and to absence of flocds and consequently better agricultural produce in the previous year.

The total number of births in the province registered during the year was 247,008, the number of males being 127,106 and females 119,902 as against 238,797 in 1938. This means an increase of 8,211 births or 1·16 per thousand of population during the year over those recorded in the year preceding.

3. The statement below gives the comparative figures of birth rates in the other province of India and in Burma during 1939:—

Province.	Birth rate per mille of population.
Orissa	34·92
Bengal	32·02
Bihar	33·3
United Provinces	36·26
Central Provinces	38·28
Punjab	40·82
Bombay	43·16
Madras	28·53
Burma	35·34
Assam	28·44
North-West Frontier Province	30·35
Sind	20·88
Delhi	43·56

Orissa recorded a lower birth rate than all other provinces except Bengal, Bihar, Assam, North-West Frontier Province and Sind.

4. **Birth registration.**—The highest birth rate 49·29 was recorded in the Angul district and the lowest birth rate 13·25 in the Agency districts. The reason for such a low rate in the agency areas was partly due to the endemic conditions of certain diseases such as malaria, yaws and venereal diseases reducing the fertility rate of the population and also partly due to many omissions in the original recording of vital statistics.

In the urban areas the municipalities of Berhampur and Parlakimedi registered high birth rates, viz., 42·23 and 35·37 respectively, whilst the municipalities of Cuttack, Jajpur and Balasore registered low rates, viz., 17·79,

16·02, and 15·41 respectively. The reason for such low rates is also due to certain extent to defective recording of the vital events. With a view to improve matters orders have since been issued by Government requiring all the municipalities in North Orissa except the Sambalpur Municipality to provide for registration of births and deaths within their limits in accordance with the provisions of the Bengal Births and Deaths Registration Act of 1873. It is hoped that with the transfer of the responsibilities of the Police for recording vital events to the municipalities, matters will improve in the urban areas, particularly in those that employ health officers with the necessary subordinate public health staff.

The rural and urban areas of the province recorded respectively 241,303 and 5,705 births, the birth rates for these areas being 35·19 and 26·31 per mille of population. The higher birth rate in the rural areas as compared with the urban birth rate is primarily due to the prevalence of early marriage among the rural population and also partly due to the scattered condition of the population existing in the rural areas reducing congestion.

5. **Deaths**.—The total number of deaths registered in the province during the year under report was 199,312, of which 99,611 were males and 99,701 were females as against 208,586 in the previous year. Out of these the rural areas recorded 194,466 and the urban areas 4,846 deaths. There was thus a decrease of 9,274 deaths or 1·31 per mille of population over those recorded in the preceding year. The provincial death rate for the year 1939 was 28·18 as against 29·49 in 1938. It would appear that in the province of Orissa, fever which includes malaria plays an important part in swelling the number of deaths.

The statement below shows the comparative figures of death rate in the other provinces of India and in Burma :—

Province.	Death rate per mille of population.
Orissa	29·18
Bengal	21·85
Bihar	23·0
United Provinces	23·09
Central Provinces	31·07
Punjab	22·15
Bombay	27·55
Madras	25·26
Assam	19·25
North-West Frontier Province	18·74
Sind	11·55
Burma	25·09
Delhi	23·09

Orissa recorded a higher death rate than all other provinces except Central Provinces.

6. **Death registration**.—The highest death rates were recorded in the districts of Cuttack and Puri, viz., 32·37 and 30·22 respectively, whilst the lowest death rates were recorded in the agency districts and Ganjam plains, the figures being 9·67 and 24·84 respectively. Amongst the towns in the province the highest death rates were recorded in Kendrapara 34·31 and Puri 33·19 and the lowest in Cuttack 13·48 and Jajpur 15·74.

The amazingly low rate for Cuttack town is probably due to incorrect recording. Since the responsibility of recording has now been given to the municipality where there is a health officer, the recording has been distinctly improving.

The average death rate in the rural areas was 28·36 and in the urban areas 22·35. The rural death rate was thus higher than that of the urban area by 6·01. The reason for the increased death rate in the rural areas is due to the prevalence of epidemics of cholera, smallpox and malaria and to the general insanitary condition of life in such areas. There was an increase of 47,696 births over deaths in the province during the year against an increase of 30,211 births over deaths in 1938, the rate of increase per mille being 6·7 as against 4·3 in 1938.

7. **Mortality according to age, class and sex.**—99,611 males and 99,701 females died in 1939, with a death rate of 29·59 for males and 26·89 for females against 103,689 males and 104,897 females with a death rate of 30·8 for males and 28·3 for females in the previous year. 48,763 deaths were recorded amongst infants under one year of age during 1939. The mortality rate of infants under one year of age was 207·00 for males and 187·25 for females with the total infant mortality rate of 197·47 per mille of births registered as against the corresponding total of 221·9 in 1938. Graphs showing the infant mortality rate in the province for the year under report, compared with that for the previous year are shown in Chart No. 1. This lower infant mortality rate is probably a chance coincidence and may be attributed to the same reasons as for the general lower mortality figures in the province. There was as usual considerable difference in the death rates amongst the different classes of community. The death rate was highest amongst the Hindus (28·85) and lowest among other classes (9·90). The death rate among Muhammadans was 27·12 and that of Christians 12·11.

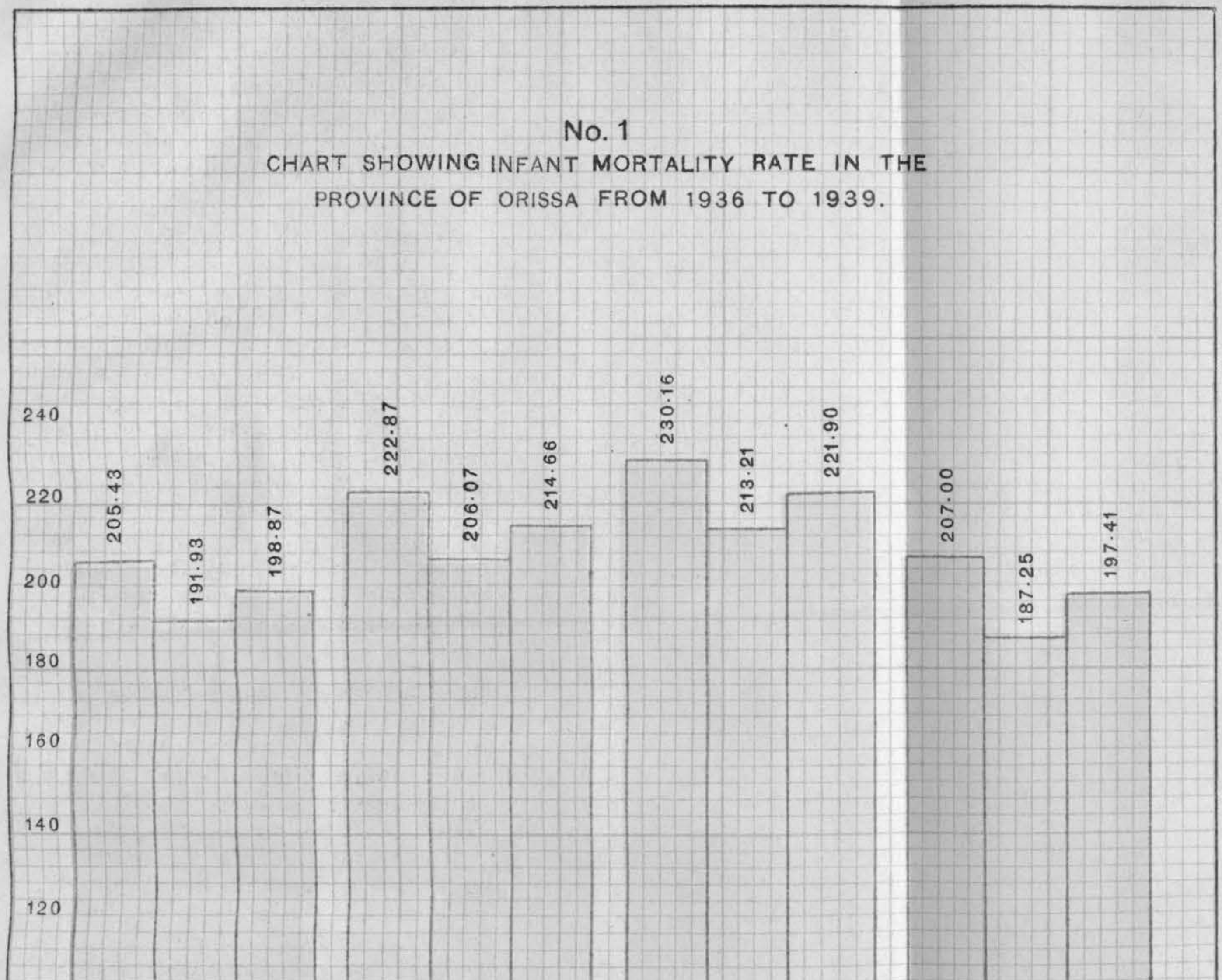
8. **Verification of registration of vital occurrences.**—Registration of vital occurrences is compulsory in the municipal areas only and in the rural areas it is not compulsory except in the Ganjam Plains. No progress has yet been made to ensure accuracy in the collection and compilation in vital statistical figures. The old method of reporting occurrences of vital statistics through the illiterate village headmen in South Orissa and the police chaukidars in North Orissa still exists. Compulsory registration of vital occurrences throughout the province under a unified system is under contemplation for which necessary information are being collected and examined. No method for the correct and complete reporting of vital occurrences is however expected to work satisfactorily until and unless every district is provided with an adequate health organisation in which respect North Orissa districts are particularly wanting.

The accuracy of 135,493 vital occurrences was investigated in the compulsory areas and verified by the public health and vaccination staff and officers of the department. 1,452 omissions were detected, 82 prosecutions were instituted and 33 convictions were obtained.

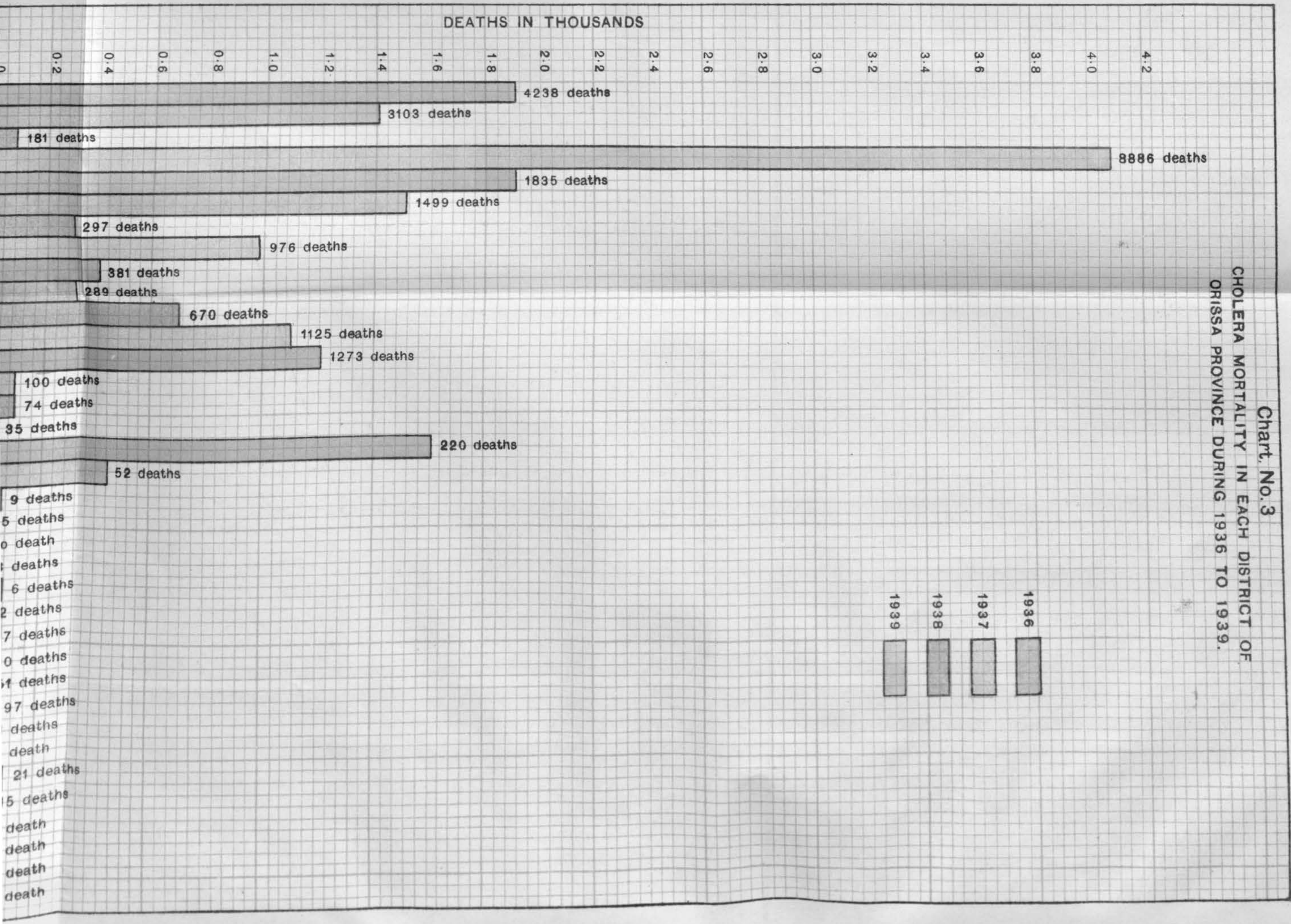
In the non-compulsory areas 28,974 vital occurrences were verified by the Public Health and vaccination staff.

9. **Publication of vital statistics.**—The weekly publication of vital occurrences for all the municipal towns with a population of over 30,000 continued as usual. Weekly epidemic reports of all the districts showing attacks and deaths from principal diseases such as cholera, smallpox, plague and influenza were published regularly in the *Orissa Gazette*.

With the increasing interest taken by all the local bodies in the proper and complete recording of vital occurrences in their respective areas, the correction of the figures has appreciably improved in the urban areas, and it is hoped to make the publication of vital statistics a real educative factor for the benefit of all concerned. So with that end in view every effort is being made to improve the system and the methods of recording these vital events in the life of the Province.



Drawn & Zincographed in the Bihar Survey Office, Gulzarbagh, Patna.



Chart, No. 3
CHOLERA MORTALITY IN EACH DISTRICT OF
ORISSA PROVINCE DURING 1936 TO 1939.

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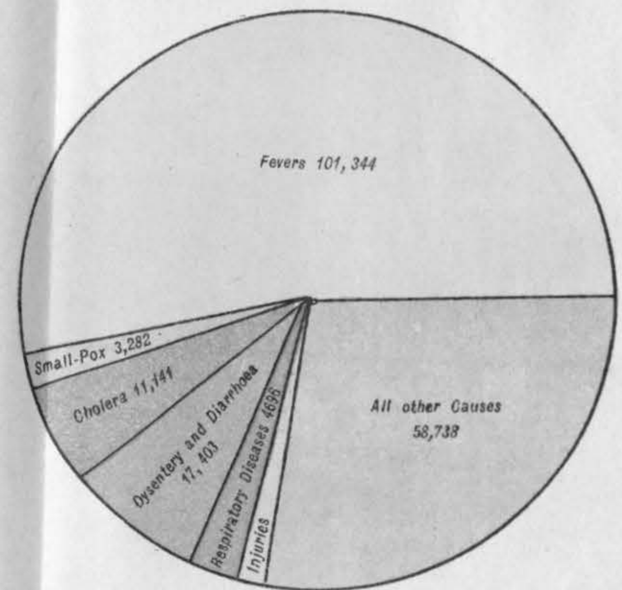
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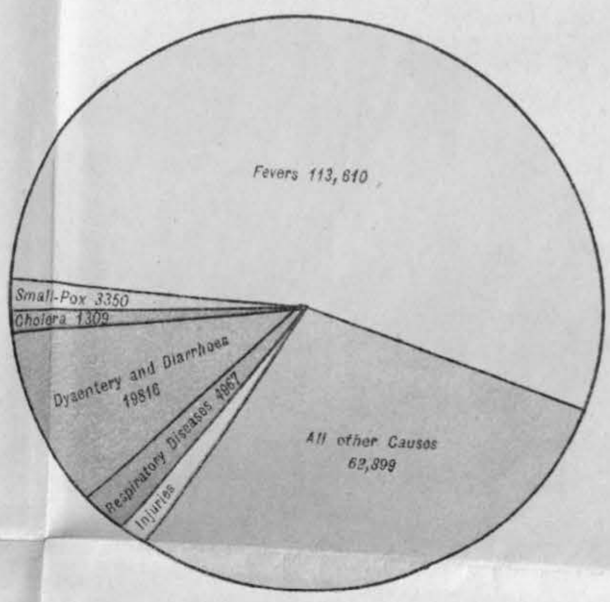
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Chart No. 2

COMPARATIVE DIAGRAMS OF DEATHS BY CAUSES FOR THE YEARS 1938 AND 1939.



Year 1939
Total Deaths
199,312



Year 1938
Total Deaths
208,586

CHAPTERS III and IV.

State of public health in the province and history of chief diseases—Epidemiology.

Incidence of chief diseases.—Graphs showing the incidence of deaths due to the chief causes for the year under report, compared with that for the previous year are shown in Chart No. 2. The statement below shows the ratio per 1,000 of population under the chief heads of mortality in 1939:—

	Urban.	Rural.	Combined.
Cholera	0·48	1·61	1·58
Smallpox	0·93	0·45	0·47
Fevers	7·36	14·55	14·33
Dysentery and diarrhoea ...	3·03	2·44	2·46
Respiratory diseases ...	1·81	0·63	0·66
Injuries	0·28	0·38	8·30
Total ...	22·35	28·36	28·18

The death rate has decreased from 29·49 in 1938 to 28·18 per mille of population in 1939. The swelling in the death figure was as usual chiefly due to large number of deaths from fever under which the death rate of 14·33 was reported as against 16·0 in the preceding year.

The urban death rates from cholera, fevers and injuries were lower than those of the rural areas, but the mortality rates from smallpox, dysentery and diarrhoea and respiratory diseases in the urban areas were higher than those of the rural areas. High death rate from dysentery and diarrhoea is due to the bad state of water-supply and defective or even the absence of proper drainage, and that from the respiratory diseases is due to congestion and the vitiated atmosphere of the towns and poor housing conditions.

2. **Cholera statistics.**—The death rate from cholera increased from 0·2 per mille in 1938 to 1·58 in 1939. The district of Cuttack recorded the highest death rate from cholera, viz., 4·08. The death rate from cholera was also high in the districts of Balasore and Puri, viz., 0·99 and 1·09 respectively. Amongst the towns, Kendrapara and Jajpur report high death rates, viz., 2·77 and 1·69 respectively.

3. **Cholera in the province.**—The total number of deaths from cholera during 1939 was 11,141 as against 1,309 in 1938 and 7,977 in 1937. The district of Cuttack recorded the highest number of deaths from cholera, viz., 8,886. The number of deaths from cholera was also high in the districts of Balasore and Puri, viz., 976 and 1,125 respectively. The other districts were comparatively free from the disease during the year. Graphs showing the cholera mortality rate in the province, district by district, for the year under report compared with that for the previous years are shown in Chart No. 3.

It would appear that the coastal deltaic districts of Cuttack, Puri and Balasore suffered heavily from this epidemic during the year, which also apparently happened to be the peak year of the usual cycle. The reason is not far to seek. During the rains practically the whole area from the Bay of Bengal to the Bengal-Nagpur Railway line which crosses these three coastal districts north-east to south-west remains submerged under water. When the infection starts in any village in this vast flooded area it becomes rather difficult to control it before it assumes an epidemic proportion, because the road communications are cut off and it takes time to get news as well as to send help from the nearest health unit for taking preventive measures. Moreover the main sources of drinking water-supply in this area are rivers,

tanks, water channels, irrigation canals and shallow ring wells, which are all open to gross contamination. This factor coupled with the ignorance, superstition and lack of civic responsibility of the people and above all their insanitary habits, render all possible measures of prevention very difficult if not futile. Therefore as soon as an infection starts in a village it assumes an epidemic form within a very short time and proves beyond the easy control of the inadequate health staff employed by the District Boards. Inadequate supply of wholesome drinking water in the rural areas is the main factor for the continued high incidence of this water borne disease.

From January to the end of March sporadic cases of cholera were being reported from these districts, when suddenly in the month of April it broke out in an epidemic form in a *mela* in the Salepur police-station in the district of Cuttack. The infection spread from this *mela* very quickly to about 50 villages in the above and the neighbouring police-stations of the district. This epidemic was brought under control completely within a month or so, only a few sporadic cases being reported. But with the onset of the rains it again broke out in several villages of Binjharpur, Aul and Pattamundai police-stations of the district in the month of July. The infection spread rapidly through the flooded rivers Kharsuan and Brahmani to almost all the villages situated on both the banks of these two rivers. There was a lull in the epidemic for a very short time when again with the high floods in all the rivers of the coastal districts, the epidemic spread widely throughout, from about the middle of August and continued till about the end of December.

The following table will show the distribution of cholera in the province month by month during the year 1939 :—

Month.	Number of deaths.
January	43
February	111
March	95
April	213
May	206
June	215
July	919
August	916
September	2,029
October	2,388
November	1,951
December	2,010
Total	11,141

Graphs showing the incidence of cholera in the province month by month for the year under report compared with that for the previous years are shown in Chart No. 4. It is clear from the above table and the Chart No. 4 that this epidemic of cholera reached its maximum intensity in the province in the month of September when there was high flood in all the rivers. It is, therefore, evident that high floods play an important part in disseminating the infection and increasing the incidence of cholera in the province. As

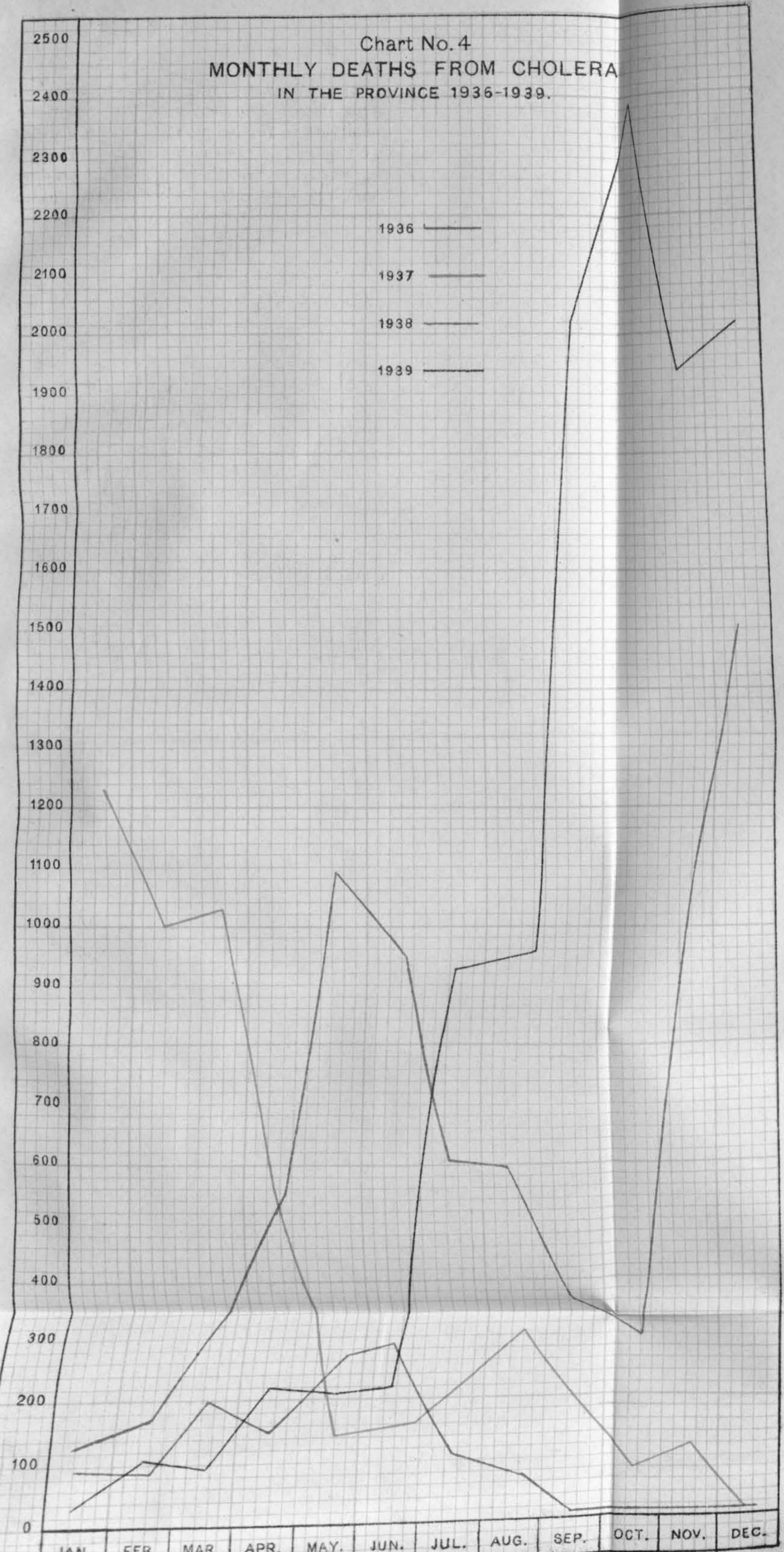
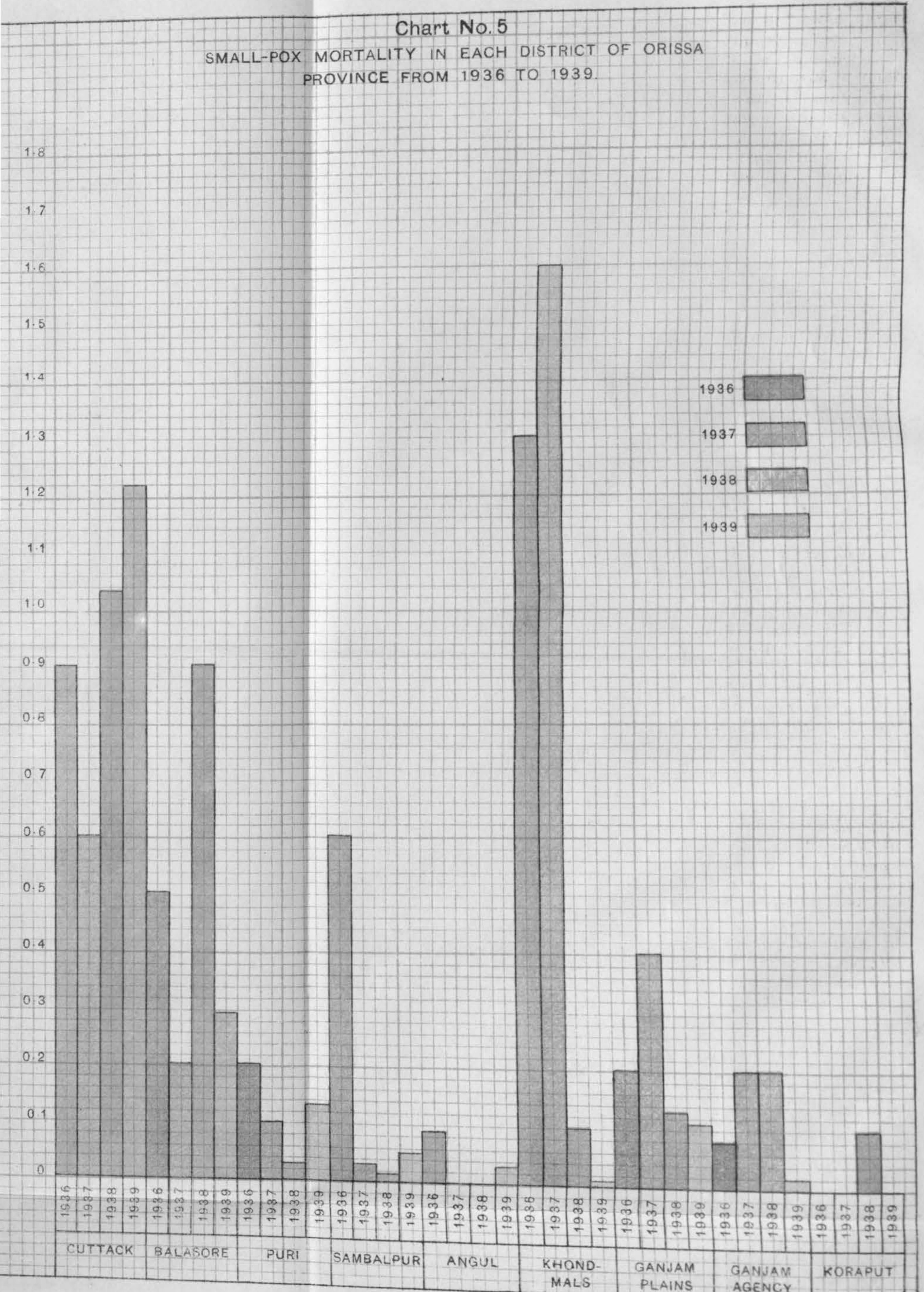


Chart No. 4
MONTHLY DEATHS FROM CHOLERA
IN THE PROVINCE 1936-1939.
1936
1937
1938
1939
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0
APR.
MAY.
JUN.
JUL.
AUG.
SEP.
OCT.
NOV.
DEC.



Drawn & Zincographed in the Bihar Survey Office, Gulzarbagh, Patna.

already noted the main sources of drinking water-supply in this area are all open to easy contamination, making all sorts of preventive measures abortive. It is time that the local bodies concerned took suitable measures for the supply of pure drinking water in this area in particular and in such other areas where the same conditions prevail, by sinking large numbers of deep masonry wells in preference to other sources and means of supply and with it village sanitation also in various ways should develop. Otherwise all money spent to take temporary preventive measures by the appointment of additional staff, purchase of medicines, disinfectants, vaccines, etc., will be a mere waste as it has been in the past, and yet there will be no permanent relief. The Provincial Government are, through the revenue authorities, taking some steps to improve the drinking water-supply in the rural areas. A proper co-ordination of efforts on the part of all concerned is highly necessary for evolving proper methods of supplying sufficient and wholesome water for drinking in the rural areas. The earnest attention of the local bodies is invited to this matter.

4. **Cholera preventive measures.**—The usual method of preventive measures for the control of the cholera epidemic was adopted by the local bodies concerned such as inoculation against cholera and disinfection of water sources, disinfection of excreta, belongings, etc., of the infected houses, etc., and educative propaganda by public health lectures with and without the aid of magic lanterns, distribution of pamphlets, etc. Besides the permanent staff the local bodies concerned appointed temporary additional staff from their own funds. I and the Assistant Director of Public Health personally visited and inspected the preventive arrangements made in the affected areas. Wherever the staff employed by the local bodies were considered inadequate to cope with the situation, temporary doctors, health inspectors and epidemic compounders were detailed by the Public Health Department to supplement the public health staff of the local bodies. For this purpose Government had to appoint 6 sub-assistant surgeons, 10 health inspectors and 1 epidemic compounder. In addition a free supply of 554,020 doses of cholera vaccine and 11,085 phials and 1,000 ampoules of cholera bacteriophage at a cost of Rs. 11,634 and Rs. 4,282 respectively was also made by this department.

One satisfactory feature is that people have come to appreciate the value of cholera inoculation and consequently there was a universal demand to take this preventive remedy which in times of epidemics of this nature is alone the satisfactory preventive method at the disposal of the public health authorities.

On account of the outbreak of the war there was some difficulty in obtaining bleaching powder for disinfection purposes but this was made good to a large extent by the Public Health Department undertaking the manufacture of electrolytic chlorogen and by making the villagers boiling their drinking water as far as possible and using coal tar disinfectants and freshly slaked lime for purposes of disinfection.

Although the epidemic was brought under control in these three deltaic districts it was still prevalent here and there to a greater or lesser degree in a sporadic form towards the close of the year. Unfortunately cholera is endemic in these areas and the situation is made worse by the frequent and repeated floods year after year.

5. **Smallpox.**—This is another most important infectious disease in the province prevailing in an endemic form and assuming epidemic proportions at definite intervals. Cases of smallpox were reported in the province throughout the year. The total number of deaths recorded from the disease during the year 1939 was 3,282 as against 3,321 in 1938 and 2,269 in 1937 giving a mortality rate of 0·47 as against 0·5 in the previous year. Graphs showing the smallpox mortality rate in the province, district by district for the year under report compared with that for the previous year are shown in Chart No. 5.

The following table will show the distribution of smallpox in the province month by month during the year :—

Months.				Number of deaths.
January	...	...	...	271
February	...	...	...	275
March	...	...	...	384
April	...	...	...	467
May	...	...	...	457
June	...	...	...	283
July	...	...	...	208
August	...	...	...	213
September	...	...	...	199
October	...	...	...	129
November	...	...	...	121
December	...	...	...	275
			Total	3,282

Graphs showing the incidence of smallpox in the province month by month for the year under report compared with that for the previous year are shown in Chart No. 6.

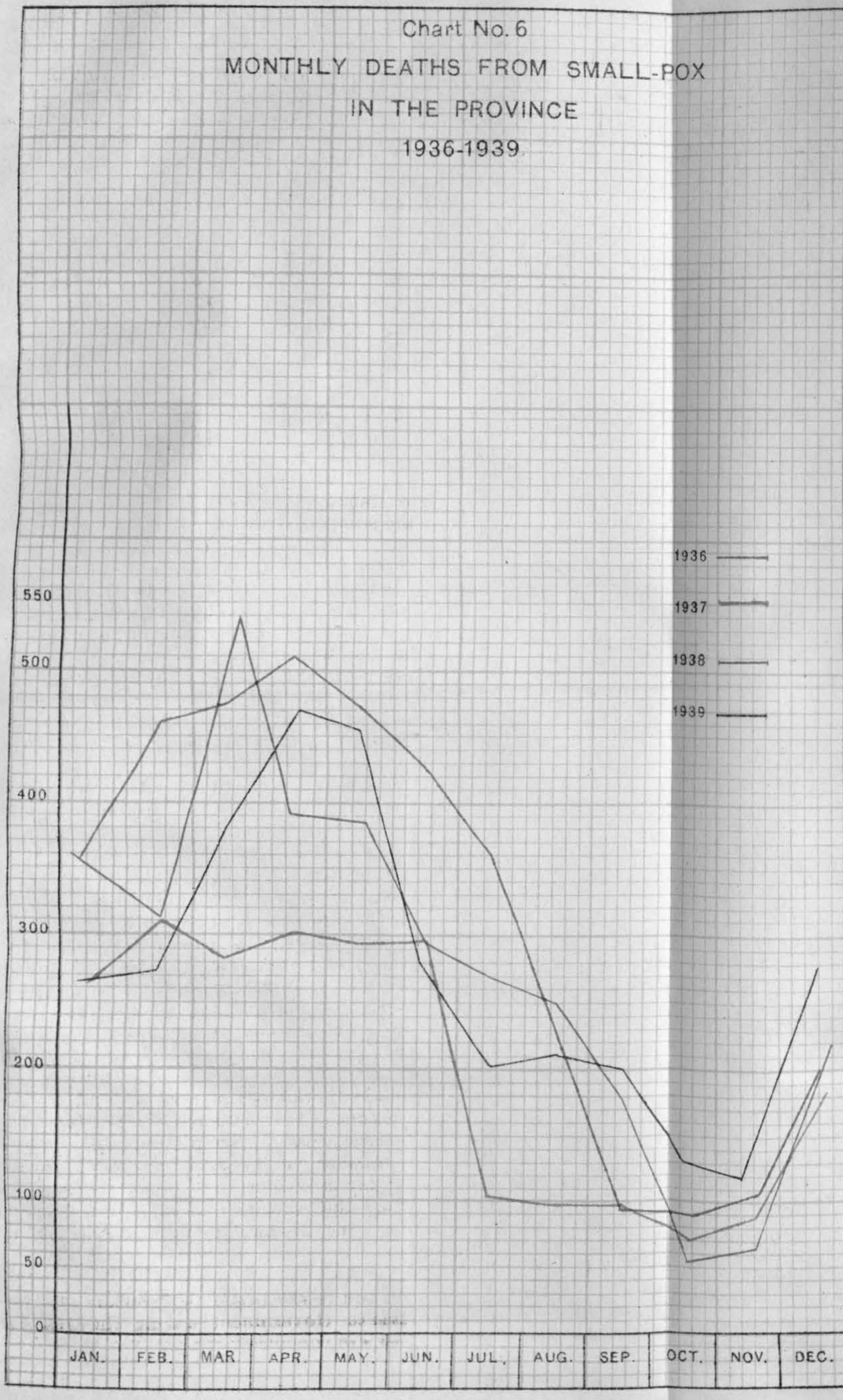
It would appear from the above table and Chart No. 4 that the disease reached its maximum intensity in the summer months, the infection reaching the highest peak in April and May.

The urban areas suffered more than the rural areas, the death rate being 0·93 in the urban and 0·45 in the rural areas. The highest death rate was registered in the district of Cuttack (1·22) while the Agency districts and the districts of Khondmals, Angul and Sambalpur returned the lowest death rates, viz., 0·02, 0·01, 0·03 and 0·05 respectively. It is noteworthy that the highest figures of smallpox death rates are recorded usually in districts where vaccination is not compulsory. Amongst the towns Kendrapara and Cuttack reported the highest death rates 2·22 and 1·96 respectively.

This is one of the diseases which tend constantly and throughout the year to increase both the sick rate and the mortality rate amongst the population in the province.

In South Orissa in the Ganjam plains (including the municipalities of Berhampur and Parlakimedi) both vaccination and re-vaccination are free and compulsory. In the Agency areas of Ganjam and Koraput both vaccination and re-vaccination are free but not compulsory. In North Orissa primary vaccination alone is compulsory in the municipalities and in the district of Puri. North Orissa municipalities employ paid vaccinators and vaccination is done free at the depots and some fees are charged for home vaccination. In Puri district vaccination is carried on by licensed vaccinators who perform free vaccination at the depots and charge a fee of annas two for each successful vaccination done at home which they take for their remuneration. In other parts of North Orissa vaccination is not compulsory and the work is carried on by the licensed vaccinators. On account of the fact that vaccination is not compulsory in the rural areas of the districts of Cuttack, Balasore and Sambalpur, a large number of persons inevitably remain unprotected because of the absence of any provision in the law to enforce it and the inability of the people to pay the vaccination fee. These factors contribute mainly to the prevalence of the disease throughout the year in the three districts mentioned above.

A scheme for making vaccination and re-vaccination compulsory and free throughout the province was submitted to Government during the year for consideration, but as the cost involved was considered too heavy in view of the



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present financial stringency, it was referred back for resubmission with alternative proposals involving less expenditure. Such a scheme was submitted and has been under the consideration of Government and it is hoped that when this is approved by Government and given effect to it will go a long way to tackle the serious problem of smallpox in the province.

In the Khondmals agency in the district of Ganjam the system of carrying out free vaccination by paid vaccinators was continued during the year with the sanction of Government and the result obtained was very satisfactory and encouraging. The incidence of smallpox in that area was reduced to the minimum the death rate being 0·01 in 1939 as against 0·1 in 1938 and 1·6 in 1937.

Vaccine lymph worth Rs. 7,805 was purchased by Government from the Vaccine Depot of the Government of Bihar at Namkum and was supplied free of cost in the province, for vaccination. 689,879 vaccination operations were performed during the year as against 644,258 during the previous year. Out of these 232,917 were primary cases and 456,962 re-vaccinations

6. **Plague.**—No case of plague was reported in this province during the year under report. All possible measures were taken at the port of Gopalpur to prevent the introduction of this disease into the province through sea, from Rangoon which maintains direct and constant shipping traffic with Orissa through its port Gopalpur.

7. **Dysentery and diarrhoea.**—There were 17,403 deaths from this group of diseases during the year 1939 as against 19,816 in 1938 and 17,194 in 1937, and the mortality rate was 2·46 as against 2·8 in 1938 and 2·5 in 1937. As usual the districts of Cuttack and Puri recorded the highest death rates, viz., 4·19 and 3·78 respectively. Among the towns Puri (4·98), Berhampur (4·56), Sambalpur (4·46), Parlakimedi (3·69) and Kendrapara (3·09) reported the highest death rates.

The epidemiology and the high incidence of this group of diseases in this province have probably got some relationship with its high humidity in the low-lying coastal districts where it most marked. To a large extent it is, like cholera, directly associated with the inadequate and bad state of drinking water-supply and defective sanitation in the rural and to a lesser extent in the urban areas of these tracts. The recurring floods also play no doubt an important part in bringing about such a bad state of sanitation and also a combination of other injurious circumstances in the coastal districts, which will be evident from the highest incidence of the disease in August when the effects of floods were worst in these areas. Want of proper nutrition specially brought about by the flood condition and consumption of stale foodstuffs by thousands in the villages also play a great role in the prevalence of the disease.

A careful study of these facts relating to bowel diseases would indicate that the one chief measure for its mitigation and even prevention is the provision of adequate and wholesome drinking water-supplies in the rural areas. Where protected water-supplies have been given as in the Puri Municipality the incidence of these diseases has become remarkably low when compared to what was the condition before such an important measure was introduced.

8. **Respiratory diseases.**—4,696 deaths were recorded from respiratory diseases during the year giving a mortality rate of 0·66 which is higher than the mortality rate from smallpox. Deaths from pneumonia and pulmonary tuberculosis which are included among those from respiratory disease probably claim quite a big percentage of total deaths recorded under this cause. In this connection it may be said that the Provincial and District Tuberculosis Associations are making attempts to organise a campaign against tuberculosis in the province, and towards that end in view a model tuberculosis clinic is likely to be established soon at the Provincial headquarters town of Cuttack on the lines advised by Dr. Frimodt Muller, the Tuberculosis Commissioner for India.

CHAPTER V.

Fairs and festivals.

A large number of *melas* are held every year in different parts of the province. Most of these *melas* are only of local interest and are attended by the people of the locality where they are held.

During the year under report in the month of April cholera broke out rather suddenly in one of these *melas*, viz., the Gangeswar Mela held on Mahabisuba Sankranti day in Salepur police-station in the district of Cuttack and as usual the infection spread quickly from this *mela* to about 50 villages in three police-stations in the neighbourhood and it took about a month to bring the epidemic under control. Although the health authorities of the district invariably make some sanitary arrangements according to their means for most of these *melas* it is found that they are unable to deal with the matter as efficiently as they should on account of paucity of funds and the inadequacy of staff. As the owners of the lands where these *melas* are held invariably derive a decent income out of these fairs, it is but proper that they should set apart a portion of the income to be spent on adequate sanitary arrangements in these places.

The most important and famous among these *melas* are the Snan, the Car and the Return Car festivals held in Puri These festivals attract a large number of pilgrims from all over India. During the year under report these festivals were held on the 2nd, 9th and 27th of June, 1939, respectively. The weather during festival days this year was extremely hot and almost rainless. The festivals were attended by about 45,000, 65,000 and 70,000 pilgrims respectively. The rush of pilgrims was somewhat less this year. The pilgrims lived as usual in the Dharamsalas and the lodging houses in the town. A large number of *sadhus* and beggar pilgrims camped on the roadsides. Some found their shelter with friends and a very large number amongst them returned on the same day.

Special sanitary arrangements were made for the whole month of June. One assistant surgeon and 11 sub-assistant surgeons were deputed for special duty by the Medical and Public Health Departments. The services of the medical officer in charge of the Puri leper colony and the municipal medical officer attached to the Puri Pilgrims Hospital were also available for the purpose.

Besides the above superior staff the municipality and the Lodging House Committee appointed extra staff consisting of 2 conservancy zamadars, 40 coolies and 284 sweepers over and above the regular conservancy staff of the municipality.

For efficient and better sanitation double conservancy service both morning and afternoon was arranged. Temporary latrines and urinals were put up at important places where pilgrims congregated.

A preliminary chlorination of all private wells numbering 2,150 was carried out previous to the festival period. All public wells were cleaned out and over chlorinated including those of the Dharamsalas, lodging houses and hotels in order to throw them out of use for drinking purposes. The public pipe water-supply was chlorinated before the festival and 24 hours constant supply of water was made throughout the festival period from 1st June to 1st July 1939. The sacred tanks were disinfected as circumstances demanded and people were prohibited from collecting water from them for drinking purposes. All the licensed lodging houses had water pipe connection to them as it is now a compulsory provision precedent to the issue of licence.

Arrangements were made through the respective health authorities of the Bengal-Nagpur Railway and Puri District Board to treat the sources of water-supply with bacteriophage at the railway stations in the district of Puri and along the Jagannath Trunk Road including the pilgrim centres at Sakhigopal and Bhubaneswar.

A vigilant watch over the food-stuffs offered for sale was kept by the medical officers placed in charge of the different wards; immediate action was taken against offenders.

The main food-supply for the pilgrims is the *Mahaprasad* from the Jagannath temple. The pilgrims not only take this during their stay in Puri but they also carry away with them to their homes a large quantity of this food for distribution amongst friends and relatives on account of the sanctity attached to it. It is unfortunately not possible to control the storage and sale of this food by the health authorities, and consequently for this lack of control serious difficulties are met with in efficiently controlling the onset of bowel diseases amongst the Pilgrims. The temple authorities are, however, doing their best to improve matters and the public opinion too is beginning to assert a wholesome influence upon the temple authorities for the purpose of preservation of this food which has a sanctity attached to it. It would be of advantage if the Municipal Health Officer could supervise and control the sale of food inside the temple without in any way interfering with the religious sentiments of the temple authorities. There were hardly any cholera cases right up to the termination of the festival. Only during the last two or three days 12 cases occurred and the situation seemed somewhat alarming. This was, however, put under control soon. Many of these cases were presumably only simple manifestations of gastro-intestinal disturbances due to consumption of unwholesome food while in an exhausted state from a long and tiresome journey with little or no food on the way.

Altogether 58 cases were reported of which 42 were diagnosed as cholera on the basis of clinical finding including 16 which were found bacteriologically positive. Of these 5 having previously inoculated nevertheless got the attack as detailed below :—

Onset after inoculation.	Number of attacks.	Result of treatment.
Definite period could not be ascertained.	1	Cured
6 days	1	"
4 days	1	"
2 "	1	"
Same day	1	"

These figures go to prove the idea already accepted by the scientific world that the maximum protective value of anti-cholera inoculation is generally after the first week of inoculation and therefore of the advisability of pilgrims taking the inoculations if possible before they leave their homes.

Anti-cholera inoculations were pushed through and 40,994 persons (6,659 residents and 34,4335 pilgrims) were inoculated to whom certificates of inoculation were issued. Propaganda was carried out by means of lectures delivered with and without demonstrations of magic lantern slides, leaflets and posters on preventive measures against cholera.

Several volunteer organisations rendered very helpful service, such as giving first-aid removing patients to the hospital, supplying drinking water, spraying water amongst the crowd and fanning the thickly congested crowd, etc.

Appreciation is due to these volunteer organisations for their very willing assistance and co-operation and the valuable services in the interest of the pilgrims even at some personal discomfort and some times under trying circumstances. I visited Puri a few days prior to the festival period and discussed with the Chairman and the Commissioners of the Municipality regarding the proposed arrangements and gave necessary instructions and

advice. I again visited the place on the Car festival day. The Assistant Director of Public Health remained there for about a week to see to all the details of sanitary arrangements. The District Magistrate was also in close touch with all the arrangements.

Of the other important *melas*, mention may be made of the Chandaneswar *mela* in the district of Balasore. This *mela* is held every year in April and is attended by about 35 to 40 thousand people. This year the *mela* was held from the 8th to the 14th of April, but it took two days more for the pilgrims to disperse completely as most of them stayed there for the purpose of doing some shopping in the *mela* area. Necessary sanitary arrangements were made by the Public Health Staff of the Balasore District Board. 2,339 inoculations against cholera were carried out. No case of cholera or any other infectious disease was reported, though there was cholera in the neighbouring thanas of Midnapur district in Bengal and also in one of the neighbouring villages.

CHAPTER VI.

Urban Sanitation.

As noted in the previous reports, the province has eight municipalities. The three larger municipalities of Cuttack, Puri and Berhampur have qualified health officers, two of them for Cuttack and Puri being 1st class health officers and the health officer of Berhampur Municipality being a 2nd class health officer with L. P. H. qualification. They belong to the Government Public Health cadre and draw pay from Provincial revenues. The Municipality of Kendrapara has appointed one Sub-Assistant Surgeon without L. P. H. qualification as its Health Officer, at its own cost during the year under report. In the remaining municipalities of Balasore, Jajpur, Sambalpur and Parlakimedi there are no health officers. The sanitation of these four municipalities is looked after by Sanitary Inspectors. So far as public health is concerned the general amenities which a municipality, be it large or small, is generally expected to provide for the comfort and convenience of the people in its area, take the form of the provision of a wholesome and protected water-supply, efficient disposal of rubbish and excreta, effective drainage to carry off sullage and waste water, control of sale and adulteration and supervision of food, market, slaughter houses, burial and burning grounds, etc. It is not expected that all these important subjects can be tackled with any amount of efficiency by a Sanitary Inspector. A trained health officer by virtue of his training and education is alone qualified to supervise the work of sanitation and to enforce the various bye-laws relating to public health. But unfortunately those municipalities which have not appointed a health officer have seldom realised this fact. It is gratifying to note that one of these municipalities, viz., Parlakimedi Municipality, has since agreed to appoint a health officer of Sub-Assistant Surgeon class with L. P. H. qualification, Government meeting half the cost of his pay, and arrangement for the said appointment is being made.

The provision of a wholesome and protected water-supply and proper drainage in a municipal area is one of the primary responsibilities of a municipal body. In two of the eight municipalities, viz., in Puri and Berhampur, provision for pipe water-supply has been made. In the rest, water for drinking purposes is derived mainly, as already stated elsewhere, from shallow ring wells, rivers and a few masonry wells and tube wells which are considered inadequate and most unsatisfactory, except deep masonry wells and tube wells. Unless and until the system of water-supply and drainage is improved the high rate of sickness and epidemic diseases which prevail in the urban areas year after year will not decrease.

The municipalities of Cuttack and Puri, as in the previous year, undertook anti-mosquito measures on a small scale in their respective areas, which no doubt helped temporarily to diminish the mosquito nuisance in these towns.

The Food Adulteration and the Vaccination Acts were in force in all the urban areas, but generally speaking except in the larger municipalities the provisions of the Acts were not adequately enforced by the local bodies concerned.

Four out of the eight municipalities in the province, besides a number of Union Boards and Union Committee areas, were inspected by me and the Assistant Director of Public Health during the year—one by me and three by the Assistant Director of Public Health. Reports of these inspections were duly submitted to Government. Most of the recommendations involving minor expenditure made in the inspection remarks were as usual given effect to by the municipalities, although those with regard to bigger schemes and major public health projects involving huge expenditure for protected water-supply, improved drainage, etc., had to be postponed for paucity of funds from which the municipalities in the province in general chronically suffer.

2. **Expenditure on sanitation in municipal towns.**—The statement below shows the receipts and expenditure for sanitary purposes during the year 1938-39 as compared with those of the previous year :—

Number of munici-palities.	Total receipts including opening balance.		Heads of expenditure.	1937-38.	1938-39.	Percentage of expenditure to the total receipts.	
	1937-38.	1938-39.				1937-38.	1938-39.
1	2	3	4	5	6	7	8
	Rs.	Rs.		Rs.	Rs.		
8	9,65,196	10,70,836	Conservancy ...	2,14,661	2,09,738	22·2	19·6
			Drainage	18,876	28,637	2·0	2·7
			Water-supply ...	24,181	26,522	2·5	2·5
			Vaccination	3,250	3,267	0·3	0·3
			Epidemics ...	8,281	7,051	0·9	0·6
			Markets and fairs ...	11,337	4,972	1·2	0·5
			Other sanitary charges	288	1,288	0·03	0·1
			Public Health Staff ...	62,847	19,350	6·5	1·8
			Total ...	243,721	3,00,770	35·63	28·1

3. **Chief sanitary works in municipal towns.**—The details of expenditure under this head are dealt with in the report of the Superintending Engineer, Public Health Circle, Bihar.

CHAPTER VII.

Rural Sanitation.

No changes were effected in the public health organisation of the various districts of the Province during the year under report. The district of Cuttack (excluding Angul), Puri, Balasore and Ganjam (excluding Khondmals and the agency areas) have each a fully qualified health officer and a proper health organisation scheme, which in Ganjam plains is more elaborate and more satisfactory than in the other districts. The Health Officer of the last named district belongs to the Provincial Public Health Service and those of other three districts are District Board servants. Health organisation

CHAPTER VIII.

Fevers.

Fevers appear to be the chief cause of mortality in the province. 101,344 deaths from fever alone or 50·8 per cent of the total mortality from all causes were reported to have occurred during the year as against 54·5 per cent in the previous year. A number of diseases in which the rise of temperature is a marked symptom continue to be grouped under the general heading "Fever". The births and deaths registration being not compulsory in the rural areas and the agency through which vital statistics are collected being not educated or at least not being sufficiently intelligent to correctly ascertain the cause of death, it is not possible to account for the deaths caused by different kinds of fever such as malaria, enteric fever, measles, relapsing fever, kala-azar, influenza, typhoid, cerebro-spinal fever, etc., but there is no doubt that in Orissa the bulk of the deaths from fever is due to malaria.

Graphs showing the death rate under fever in the province district by district for the year under report compared with that for the previous years are shown in Chart No. VII.

The death rate under the general head 'fever' was 14·33 during the year 1939 as compared with 16·0 in 1938. The highest death rates were recorded in Khondmals (26·13), Angul (23·52), and in the district of Balasore (17·82). Amongst the towns Kendrapara (13·95), Puri (11·85) and Sambalpur (10·32) respectively reported the highest death rates from this disease.

From the graphs showing the number of mortality from fever in the province month by month for the year under report compared with that for the previous years and the mortality table given below month by month, it would appear that turning downwards from its previous year's maximum in December 1938, the death rate from fevers reached its lowest in July although there was a rise in March. It suddenly rose again in August, but again it gradually came down in September and October and steadily rose in November and December. Compared with the previous year's figures the mortality under this head was lower in all the months except in January, February and April in which the mortality from this cause was slightly higher.

Months.	1938.	1939.
January	... 9,869	9,992
February	... 8,099	8,570
March	... 9,374	9,192
April	... 8,296	8,939
May	... 8,199	7,747
June	... 7,739	6,577
July	... 9,750	6,802
August	... 10,772	9,423
September	... 9,462	9,483
October	... 8,772	7,469
November	... 11,297	8,481
December	... 11,981	9,669

Malaria.

The province of Orissa is notoriously bad for malaria. It is widely prevalent in the deltaic districts of Cuttack, Puri and Balasore and also in the district of Ganjam along the Chilka lake coast and in the agency tracts of Ganjam and Koraput districts. To a less extent it is prevalent also in other

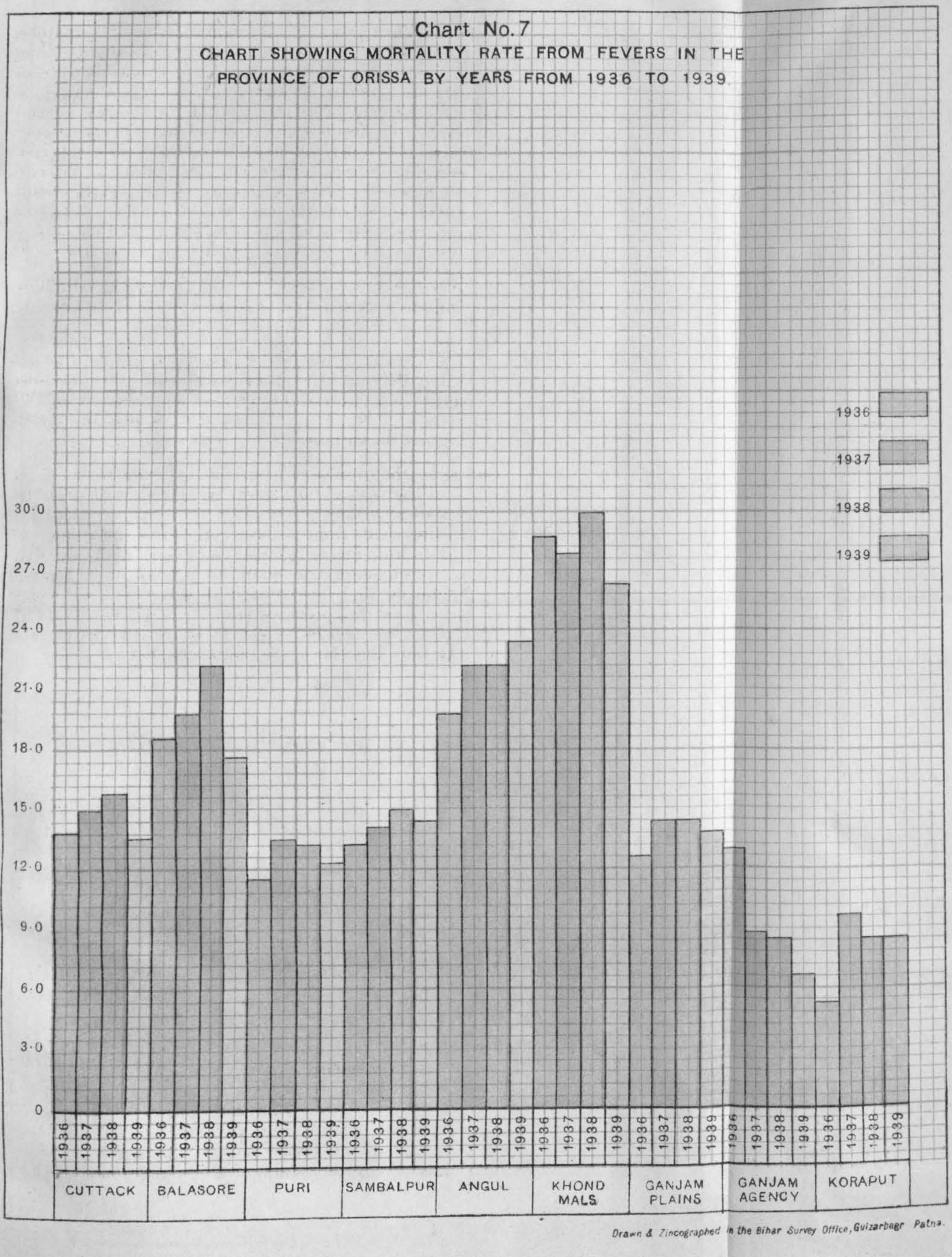
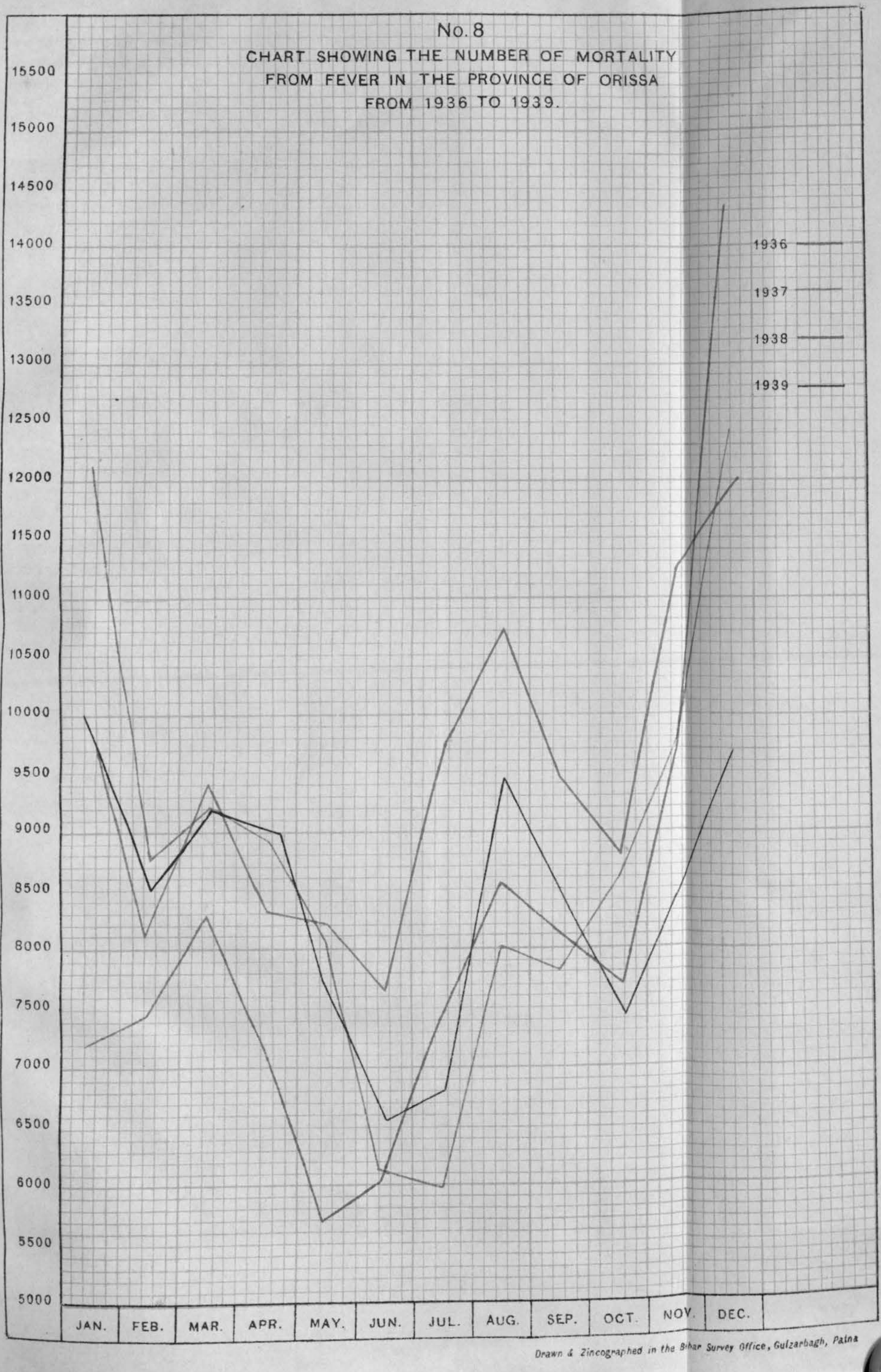


Chart No. 7
CHART SHOWING MORTALITY RATE FROM FEVERS IN THE PROVINCE OF ORISSA BY YEARS FROM 1936 TO 1939.
1936
1937
1938
1939
30·0
27·0
24·0
21·0
18·0
15·0
12·0
9·0
6·0
3·0
0
CUTTACK
BALASORE
PURI
SAMBALPUR
ANGUL
KHOND MALS
GANJAM PLAINS
GANJAM AGENCY
KORAPUT
Drawn & Zincographed in the Bihar Survey Office, Gulzarbagh Patna.



No. 8
CHART SHOWING THE NUMBER OF MORTALITY
FROM FEVER IN THE PROVINCE OF ORISSA
FROM 1936 TO 1939.
15500
15000
14500
14000
13500
13000
12500
12000
11500
11000
10500
10000
9500
9000
8500
8000
7500
7000
6500
6000
5500
5000
1936
1937
1938
1939
JAN.
FEB.
MAR.
APR.
MAY.
JUN.
JUL.
AUG.
SEP.
OCT.
NOV.
DEC.
Drawn & Zincographed in the Bihar Survey Office, Gulzarbagh, Patna

parts of the province. The remnant collections of flood water in the innumerable tanks, ditches, dobas, etc., account for the large number of breeding places of mosquitoes.

Malaria did not however break out in severe epidemic form in any area of the province during the year under report.

The local bodies of the province were asked to put up small schemes for anti-malarial work in hyperendemic areas in their jurisdiction to enable Government to make small grants for the purpose. Grants of Rs. 1,300 and of Rs. 800 respectively were made by Government to the Kendrapara Municipality and Balasore District Board in aid of such schemes.

Anti-malarial operations in Koraput, Jeypore, Pottangi and Malkangiri in the district of Koraput were as usual continued during the year under report.

The Provincial Malaria Officer—a medical graduate with Diploma in Public Health (D. P. H.) and with training in Malariology at the Malaria Institute of India, New Delhi, and the staff consisting of one assistant to the Provincial Malaria Officer with L.M.P. and L.P.H. qualifications, one laboratory assistant (a trained Health Inspector), two insect collectors and one peon for the office were appointed during the year under report. The whole staff worked in a station situated in the coastal area of the Chilka lake in collaboration with the Malaria Unit so kindly deputed by the Director, Malaria Institute of India.

Sale and free distribution of quinine.—The District Boards concerned made necessary provision in their Public Health budget for the purchase and free distribution of quinine in the malarious areas. Indents for medical stores of all hospitals and dispensaries in the province were also scrutinised by me in order to ensure that a fair proportion of the grant for the purchase of medicines, drugs, etc., is spent in the purchase of quinine and other cinchona products.

In addition 34 lb. of quinine were supplied by the Public Health Department for free distribution in areas where there was an epidemic of malaria and also for free distribution to scholars in educational institutions situated in malarious areas. Quinine worth Rs. 4,075 was sold through post offices and other vendors during the year under report.

CHAPTER IX.

Maternity and Child Welfare.—The Sub-Committee of the Indian Red Cross Society which administers the Victoria Memorial Scholarship Fund also finances to some extent the maternity and child welfare work in the Province. There are four important maternity centres in the Province viz., Cuttack, Balasore, Sambalpur and Berhampur, where maternity and child welfare work is carried on although not quite in a fully organised manner. Each centre is managed by a local committee. The Provincial Government give an annual contribution of Rs. 1,500 and Rs. 600 towards the upkeep of the centres at Cuttack and Balasore respectively. The other centres are entirely maintained by local subscriptions and contributions from the local bodies.

Besides the above centres there is also a small nucleus of organisation for maternity and child welfare work in several other places in the province, viz., Khurda and Puri in Puri district, Bargarh in Sambalpur district, Parlakimedi and Russelkonda in Ganjam district, Koraput, Jeypore and Umerkote in Koraput district. Indigenous dais trained under the Victoria Memorial Scholarship Fund have also been employed in certain rural hospitals and dispensaries who do a certain amount of maternity and child welfare work in the rural areas.

The centre at Cuttack is in charge of a qualified Lady Medical Officer (L.M.P.) designated as Maternity Supervisor. Five trained dais have been employed under her, each for a definite area of the town. During the year under report the staff attended on an average in a month:—

Maternity cases	55
Ante-natal cases	60
House visiting	220

The centre also held a training class for indigenous dais under the auspices of the Victoria Memorial Scholarship Fund and eight dai pupils were under training. Regular ante-natal and Post-natal clinics were held at the centre, and certain days in the week were set apart for infants and children's clinics.

The maternity and child welfare centre at Balasore is in charge of the lady doctor attached to the Sadr hospital, Balasore. Four qualified dais, three paid from the funds of the centre and one by the municipality are employed in this centre.

During the year under report the staff attended 298 maternity cases and performed 4,715 home visits. The centre also conducted training of dais under the auspices of the Victoria Memorial Scholarship Fund.

At the maternity and child welfare centre at Sambalpur one qualified midwife who is also a trained Health Visitor and a trained dai have been employed. Their work is supervised by the lady doctor attached to the Sadr hospital, Sambalpur. The centre is entirely maintained by the Sambalpur Municipality and the District Council, Sambalpur.

The following work was done by the staff of this centre during the year:—

Ante-natal visits	116
Ante-natal revisits	228
Seen in labour	21
Taken to hospital	4
Delivered personally by midwife	176
Post-natal visits	41
Revisits	994
Friendly visits	585

The maternity and child welfare centre at Berhampur is housed in a specially built building. The management of the centre is vested in an executive committee. The expenses towards its upkeep are chiefly met from local subscriptions and the Berhampur Municipality gives an annual contribution of Rs. 1,000. The staff consists of a midwife and a dai. Pre-natal and child welfare activities are carried out besides house visiting in the homes of expectant mothers of the town. One hundred and twenty-five normal deliveries were conducted by the staff during the year. Also 40 babies were given daily baths and supplied with milk twice a day. Twenty-five mothers and 50 children were sent to hospital for treatment for major complaints. The centre is well-equipped. A few ladies in the town who are on the committee take good interest in the work that is done in this place.

The other centres in the Province also carried on maternity and child welfare work in the same manner on a smaller scale.

In order to improve the maternity and child welfare work in the province and to co-ordinate the work carried out independently by some of the local bodies and the Public Health and Medical Department in this respect, it would be most advantageous and in fact almost necessary that an experienced and a fairly senior woman medical officer especially qualified and having also the experience of this part of public health work should be appointed. In this connection it may be noted that Dr. C. Houlton, C.B.E., Chief Medical

Officer, Women's Medical Services, after her visit to this province early last year and subsequently Miss Meliscent Shepherd, Central Organiser, Association for Moral and Social Hygiene in India, after her visit to this Province, have pointedly called attention to the necessity of appointing such a special woman medical officer.

Maternity and child welfare work in this province is still in its infancy and requires a good deal of organisation and uplift work which such a lady medical officer would be able to tackle thoroughly and systematically. That there is a special need for improving this form of specialised work amongst the women and children in the province is no doubt widely recognised. It is therefore advisable to consider the question of appointing such a lady medical officer as and when funds permit. It would appear that all the existing centres in the province are now working more or less independently without any co-ordinated effort being made to put them on an uniform organised working order, each centre doing its best according to the local circumstance and financial aid available. None of these centres except Cuttack employs a wholetime qualified lady doctor except that the Dufferin Fund lady doctors at Balasore and Sambalpur do part-time work at these centres. In Berhampur there was a lady doctor sometime ago appointed for the first time in 1936 after the creation of the new province but she had to leave this post on account of financial difficulties for meeting her pay. It is very desirable that these centres should each have a well trained health visitor and develop separately from the hospital altogether in order to avoid the danger of mixing up treatment work with the essential preventive work. In Cuttack the Maternity and Child Welfare Centre, as a result of long established practice, has unfortunately developed into a treatment centre as well and people have come to realise it as another centre for treatment exclusively for women. Efforts were being made several times to give up such work altogether in this centre but because of the persistent clamour of the people who have been making use of this centre for treatment purposes as well, it has not been possible to do anything further about it.

It is pointed out that under the present financial condition of the various centres it is very doubtful if all of them will be able to provide for a separate Health Visitor. Failing to appoint Health Visitors to be in charge of it, it is suggested that the centres should be under the control of the medical officer of health of the municipality wherever there is such an officer, without any prejudice to the powers of the local committees which manage these centres.

Efforts are being made to open maternity and child welfare centres here and there and without financial aid either from the local people or from the municipality, the Union Board or the District Board, as the case may be, it will be difficult to pursue the scheme with success. The local bodies should regard the development of well-organised maternity and child welfare centres in their respective areas as a part of their duties, because many things can be done for the amelioration of the special difficulties peculiar to women and children if such centres are established particularly for pre-natal and post-natal work amongst mothers and expectant mothers.

It is necessary also that all such well organised maternity and child welfare schemes should be eligible for Government grant-in-aid so that Government may have, through their medical and public health department, some control over them for the purpose of stimulating and improving the work in this direction in the country.

CHAPTER X.

School hygiene and medical examination of school children.

The Government continued to maintain a special staff for the medical examination of scholars of all the High Schools and also the Middle English Schools in the urban areas only where there are High English Schools as well.

There is a School Medical Officer of the Provincial Public Health Service and an Assistant School Medical Officer of Sub-Assistant Surgeon class for this province. The Assistant School Medical Officer who was officiating from the previous year as School Medical Officer continued to officiate as such up to 15th August 1939. From 16th August 1939, to the end of the year the office of the School Medical Officer was held by a medical graduate specially recruited to the Provincial Public Health Service. The School Medical Officer and his staff inspected all the High English Schools and all the Middle English Schools situated in the urban areas of the province. The scholars in the Middle English and Middle Vernacular Schools in the rural areas were as usual examined by the District Board health staff and the District Bcard dispensary doctors. No medical examination of school children in primary schools was carried out as the number of such schools in the province is too large for the existing Government and the District Board Staff to carry out, although it may be mentioned that it is obviously very important to link up these schools with the higher grade schools in the scheme of medical inspection of school children.

Medical examination of scholars.—The total number of High and Middle English Schools visited by the Government school medical staff was 31 and 11 respectively in 1939 as against 28 and 11 respectively in the previous year. The total number of students examined in these schools was 4,809 of which 2,986 or 62 per cent were found defective as against 67 per cent in the year 1938.

Common defects detected among school children.—The common defects detected among the student population of the province examined, in order of their frequency, are as follows :—

	Per cent.
Malnutrition	14
Enlarged tonsil	13
Scabies	9
Defective vision	8
Enlarged spleen	7
Carious teeth	7
Phimosis	6
Stoop shoulder	5
Non-protected against small-pox	4
Hydrocele	3
Pyorrhoea	3
Granular lids	3
Ring-worm	2
Leprosy	1·15
Anaemia	1

Incidence of leprosy among school children.—55 cases of leprosy were detected among 4,809 students examined as against 81 cases in the previous year. The percentage of incidence among the scholars works out to 1·15 or in other words the incidence was 1 in 86. The infective cases were advised to be excluded from the school in the interest of the other students and to undergo systematic and regular treatment. The non-infective cases were allowed to attend school but at the same time they were compelled to undergo treatment regularly and were placed under medical surveillance. With the co-operation of the Headmasters, the guardians and the departmental authorities, it is hoped that the spread of this infection among the student community will be effectively controlled.

Nutrition.—Of the total number of 4,809 students medically examined during the year under report 1,258 boys or 26 per cent were found with good

nutrition, 2,889 or 60 per cent with fair nutrition and 662 or 14 per cent with bad nutrition as against 34 per cent, 55 per cent and 10 per cent respectively during the previous year.

Attempt is always made to impress on the students and the teachers the necessity for a balanced diet for normal growth of the body and to guard against deficiency diseases so common among the student community, by mass lectures, magic lantern demonstrations and personal talks, etc. Definite instructions are always left by the School Medical Officer for modification and improvement of the diet which is invariably found deficient and ill balanced depending on the local conditions. It is gratifying to note that there has been a good response in this respect and the hygienic consciousness of the students has improved. The students are gradually learning to rely on the wholesome effects of better dietary and hygienic living. But it is noticed that the poverty of many parents definitely stands in the way of improving the state of affairs.

The following schools need special mention on account of high percentage of defective students:—

	Per cent.
Moslem Seminary, Cuttack	73
Bhingarpur High English School	75
Lakshmananath High English School	77
G. H. E. School, Baragarh	72
Board High School, Gunupur	73
Biraja M. E. School, Jajpur	73
Anglo-Bengali M. E. School, Puri	74
Bhadrak High English School	71

As for other defects the guardians of the defective children are requested to get their children properly treated.

Students benefited by treatment.—During the medical examination of students the old defectives were examined in the light of the defects previously noticed in them and it was found that during the year under report as many as 1,062 or nearly 64 per cent out of a total number of 1,672 old defective students examined, were free from their previous defects. The result solely depends on the endeavour of the parents to arrange for treatment of their wards and thereby make the best utilisation of the recommendations made by the School Medical Officer. It is hoped that the indifference on the part of some parents will gradually disappear and that they would realise the value of good health.

In the rural areas the total number of students in Middle English and Middle Vernacular Schools examined by the District Board Public Health Staff was 3,180 and the number recommended for treatment was 1,712 or 54 per cent.

Lectures on hygiene.—357 lectures were delivered to students of classes X and XI in English and to students of lower classes in the vernacular on different subjects.

Thirty five lectures were delivered to teachers of primary schools during the summer vacation.

Vacation course.—In the months of May and June when all the schools were closed for the summer vacation, the services of the School Medical Officer and his staff were as usual utilised for delivering a course of vacation lectures to the village gurus and members of the inspecting staff of the Education Department at convenient centres. One or more centres were selected in each district for the convenience of the primary school teachers. Bhubaneswar in Puri district, Nowrangapur in Koraput district, Phulbani and Chatrapur in Ganjam district, Barchana in Cuttack district, Chandbali

in Balasore district and Rampella in Sambalpur district were the centres selected for the purpose during the year. The subjects of these lectures were personal hygiene, school hygiene, epidemic diseases, village sanitation, nutrition, leprosy, tuberculosis, etc.

Of all the centres the attendance was highly satisfactory at Barchana, Phulbani and Rampella and the teachers at these centres evinced great interest on the subjects talked to them, whereas at Chatrapur there was a complete lack of interest both on the part of the teachers and the inspecting officers concerned.

Inspection of school premises and schools.—During their visit to the schools, the School Medical Officer and his staff regularly inspected the sanitary condition of school and hostel buildings. These inspections have helped a good deal in improving the general sanitation of the school premises and in rectifying defects in the sanitary conveniences provided for both the day and residential scholars. They also inspected the arrangements made for physical exercises and games and the sitting arrangements in class rooms. Some school houses have got only mud floors. It is desirable that the floors of these school houses should be cemented. Some schools have no latrines and urinals. The students of these schools attend to their calls of nature in open fields adjacent to the schools and the school authorities do not seem to realise the evil consequences of hundreds of boys using the adjacent areas of their residence for the purpose of their privies day after day. It is desirable that the Education Department should make it compulsory for every school to maintain latrines and urinals.

Except only a very few no school possesses a suitable kitchen. The kitchen of every school hostel should possess a separate spacious dining room and the floor of the kitchen and the dining room should be cemented. Every kitchen and dining room should also be provided with proper drainage for frequent washing. It is also desirable that the bad practice of cooks and servants putting up in the kitchen and using it as a living room as pointed out by the School Medical Officer should be immediately put a stop to and separate accommodation provided for them.

Midday school lunch.—The scheme for providing midday school lunch based on a small monthly fee realised from school children introduced in some schools of the province is reported to be working well.

As the question of separate arrangement for the medical examination of girl students in the province was not finally decided upon by the Provincial Government, the medical examination of girl students could not be carried out during the year. A whole-time medical officer of Assistant Surgeon class was maintained by Government for the medical examination and treatment of students of the Ravenshaw College, the premier first grade college in Orissa. Medical examination of students residing in hostels and private messes under Government supervision was also carried out by the local civil assistant surgeons as usual.

Doctor teachers have been appointed in a few of the Government-managed and Government-aided high English schools of the province who besides teaching ordinary subjects in the lower classes like other teachers look to the health of the hostel boarders and advise the authorities on the sanitary conditions of the schools and the hostels from time to time.

It is evident that very useful work is done by the system of school medical inspection. It is gratifying to note that the authorities of the Education Department and of the many individual schools have appreciated the good work done by the school medical inspection staff for the promotion of health and spread of knowledge on elementary hygiene and sanitation amongst the vast school-going population and have materially contributed in strengthening measures adopted on this behalf.

CHAPTER XI.

Health Propaganda.

This work is one of the routine duties of the district and municipal health staff and was carried on by them throughout the year under report. They delivered lectures in their respective districts with and without magic lanterns and distributed leaflets and pamphlets on the prevention of cholera, smallpox and malaria in the vernacular language of the province especially during epidemics.

During the year under report propaganda on various health subjects was carried out in 9,345 villages and in almost all the towns of the province. 1,505 lectures with magic lantern demonstrations and 1,034 lectures and talks illustrated with charts were conducted during the year throughout the province to a total audience of about 1,190,960. 23 health dramas were also staged in the district of Ganjam. During the year under report the municipality of Cuttack purchased a film projector and regularly delivered short discourses with the aid of this film projector in different places of the town.

At larger festivals interesting posters on public health subjects were hung up at important places and at Railway stations where they could attract the notice of the passengers.

The national health and baby week was as usual observed in several centres in the district of Ganjam in which all the departments participated. The following primary items were attended to in almost all the centres :—

(*i*) Cleanliness and village sanitation ;

(*ii*) lectures on health subjects with magic lantern demonstrations ;

(*iii*) exhibiting posters and coloured charts and health models and explaining them to the villagers ;

(*iv*) staging of health dramas ;

(*v*) taking out processions, singing health songs and slogans ;

(*vi*) holding sports and distributing prizes and sweets ;

(*vii*) distributing health pamphlets and leaflets ; and

(*viii*) holding competitive examinations and awarding suitable prizes.

The health unit at Tirtol in the district of Cuttack, on the occasion of its anniversary ceremony, held a public health exhibition and baby show which was attended by a very large number of people and was unique of its kind in the rural areas of the province.

There was an awakening amongst the masses for establishing health societies and health units in the villages and a few such societies were formed in the rural areas of the province which were responsible for improving the public health and sanitation of their respective areas to an appreciable extent.

A pamphlet in Oriya on the evils of opium was printed and widely distributed in the district of Balasore, where opium prohibition work is being carried on.

A travelling health and medical unit equipped with necessary propaganda materials and drugs for the treatment of minor ailments for first-aid and bullock van on rubber wheel especially constructed for the purpose was established in the district of Balasore but it had to be abandoned for a short period for want of funds.

A lady health visitor was appointed under the auspices of the Provincial Anti-Tuberculosis Association, during the year, after a short course of training at the Lady Reading Health Visitors Training School at Delhi. She regularly carried out home-visiting work in the congested localities of the Cuttack town. She visited particularly the houses occupied by tubercular patients and gave the inmates of those houses necessary advice and instructions regarding prevention of the disease.

CHAPTER XII.

Public Health Administration.

The statement below shows the receipts and expenditure under the head "39—Public Health (Medical)" for the years 1938-39 and 1939-40 :—

Head.	Receipt.		Heads of expenditure.	1938-39.		1939-40.	
	1938-39.	1939-40.		Budget provision.	Expenditure.	Budget provision.	Expenditure.
1	2	3	4	5	6	7	8
	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
Sale-proceeds of sera and vaccine, etc. and other receipts.	14,726	22,577	Public health establishment.	80,930	58,192	69,886	67,530
			Medical examination of scholars and teaching of hygiene in high schools.	8,560	4,182	5,812	6,838
			Malaria ...	18,548	8,252	16,010	12,358
			Other epidemic diseases	25,396	23,875	28,040	33,420
			Publicity campaign ...	5,700	3,327	1,700	641
			Bacteriological laboratories.	21,520	15,308	15,281	15,878
			Grants to District Boards and Municipalities for public health purposes.	39,843	45,408	93,394	58,[illegible]08
			Contribution to Pasteur Institute for vaccines.	1,398	2,739	1,490	2,427
			Total ...	2,03,395	1,61,228	2,26,113	1,97,195

The Director of Health and Inspector-General of Prisons is the administrative head of the Public Health Department. The following other staff were maintained by Government for public health work during the year under report :—

(1) Assistant Director of Public Health.

(2) Bacteriologist and Public Analyst to Government (Officer in charge of the Provincial Public Health and Pathological Laboratory).

(3) Three Medical Officers of Health.

(4) Two Second Class Medical Officers of Health.

(5) School Medical Officer.

(6) Assistant School Medical Officer.

(7) Provincial Malaria Officer.

(8) Assistant Malaria Officer.

(9) Chemical Analyst (attached to the Provincial Public Health Laboratory).

(10) Two Inspectors of Vaccination.

(11) Four Sub-Inspectors of Vaccination.

(12) Eighteen Health Inspectors.

(13) Twenty-five Vaccinators.

Besides the above-mentioned public health staff maintained by Government the District Boards of Cuttack, Puri and Balasore employ their own first class health officers each with D.P.H. qualification under their respective health organisation schemes, to each of which Government contribute a sum of Rs. 10,000. It is hoped to have a separate whole-time first class Health Officer for Sambalpur district soon. Besides the Health Officer the local bodies also maintain a small staff of Health Inspectors and other subordinate public health staff.

The Assistant Director of Public Health is attached to the office of the Director of Health and Inspector-General of Prisons. Besides assisting the Director of Health and Inspector-General of Prisons in office work in respect of public health matters, he was employed to investigate into the epidemics, suggest measures of control and to see that the actions taken were adequate to combat the epidemics. He also supervised the prophylactic measures such as vaccination and cholera inoculation. He also systematically inspected the public health activities of the local bodies and important fairs and *melas* in the province. The supervision and advice rendered by him have done much to assist the local bodies in effecting improvement in sanitation and health of their respective areas.

The Bacteriologist and Public Analyst to Government is in charge of the Provincial Pathological and Public Health Laboratory. Besides doing all sorts of analytical work of the Public Health Department the laboratory continued to carry out pathological work.

The Chemical Analyst is chiefly concerned with the analysis of food-stuffs.

Two of the three medical officers of health who belong to the Provincial Service were employed as Health Officers of the two important towns of Cuttack and Puri and the third as the District Health Officer, Ganjam, during the year.

The two second class medical officers of health have been appointed as the Health Officer of Berhampur Municipality and the Assistant Health Officer of Koraput Agency.

The School Medical Officer and his assistant were employed in the medical examination of scholars of high schools and all middle English schools situated near about these high English schools in the urban areas.

The Provincial Malaria Officer and his staff worked in collaboration with the malaria unit deputed by the Malaria Institute of India. At present they are working independently in Puri town and its suburbs.

The Inspectors of Vaccination, the Sub-Inspectors of Vaccination and the Health Inspectors are employed for carrying out public health and vaccination work in rural areas under the supervision of the Health Officer or the Civil Surgeon whoever is in charge of the Public Health administration of the district.

Besides the above regular staff epidemic doctors of Sub-Assistant Surgeon class, Health Inspectors and compounders were as usual employed temporarily for epidemic duty as and when necessary to supplement the District Board health staff.

The local bodies are held responsible for the sanitary requirements of the areas in their charge. A list of sanitary staff employed by the municipalities and the district boards of the province is given in Appendix III.

The Public Health problem in the rural areas of the province presents many difficulties. The scattered nature of the population, the extensive areas that have to be covered without adequate facilities for communication and the insufficiency of subordinate public health staff under the district boards render it difficult for the efficient discharge of public health

functions. Most of the deltaic parts of the province being liable to flood every year, it is very difficult to provide suitable drinking water in the rural parts of this vast area. In addition the villagers are still so strictly conservative and superstitious that it takes time for them to appreciate the value of instructions on health subjects given by the public health workers; nevertheless public health propaganda work has been vigorously pursued.

CHAPTER XIII.

Vaccination.

The annual vaccination report is submitted as an annexure to this report.

CHAPTER XIV.

Other Public Health Services.

The Provincial Pathological and Public Health Laboratory.—The total number of samples examined in the Provincial Pathological and Public Health Laboratory was 3,134 during the year 1939 as against 1,646 in the year 1938. Of these 205 were samples of water, 233 samples of foodstuffs and 2,698 pathological samples.

Water.—Of the total number of 205 samples of water examined chemically and bacteriologically during the year 1939 as against 79 samples of water in the year 1938, 149 were obtained from the protected water-supplies and jails and 56 from the other sources, at the instance of the various departmental officers and the local bodies. Samples of water from the protected water-supplies were examined quarterly and those from the jails annually as usual.

Samples of water obtained from the Puri Waterworks, the Ravenshaw College and the Orissa Medical School were always highly satisfactory both chemically and bacteriologically. As regards Berhampur Waterworks, however, as in the previous year, the samples obtained from the tap in the pipe just before entering the reservoir were found satisfactory whereas those from the tap in the pipe after it leaves the reservoir were found bacteriologically unsatisfactory. It appears, there is some defect in the service reservoir which needs rectification. The municipal authorities are taking steps to replace the open ventilator by special cowls and it is expected that the contamination on the reservoir can thus be avoided.

Foodstuffs.—233 samples of foodstuffs were examined during the year under report, as against 291 in the previous year, which shows a marked fall in the work in this direction. The amount of work done in this direction depends on the receipt of samples from the different local bodies. It is desirable that the local bodies should exercise greater vigilance in the sale of foodstuffs in their respective jurisdictions and send more samples for examination with a view to control the sale of adulterated and unwholesome foodstuffs.

Of the total number of 233 samples of foodstuffs analysed 138 or 59·23 per cent were found adulterated as against 59·8 per cent in the previous year, 83 were found genuine and on 12 samples no opinion could be given owing to either inadequate quantity of the sample sent or due to absence of any standard prescribed by Government or due to breakage during transit.

With the enforcement of the new Food Adulteration Act with its wide provisions it is hoped that the control of the sale of food will improve and it is also hoped that the local bodies will take the fullest advantage of the Act and the rules framed thereunder in bringing about vast improvements in this direction.

A statement showing the various foodstuffs obtained from the different sources and the results of their analysis is given below :—

Source.	Ghee.			Milk.				Foodstuff.				Mustard oil.			Miscellaneous.			Total.			
	G.	A.	T.	G.	A.	N. Op.	T.	G.	A.	N. Op.	T.	G	A.	T.	G.	A.	T.	G.	A.	N. Op.	T.
Berhampur Municipality.	7	1	8	7	21	5	33	13	17	1	31	1	4	5	8	12	20	36	55	6	97
Cuttack Municipality	13	24	37	...	...	...	...	0	4	2	6	4	14	18	11	1	12	28	43	2	73
Puri Municipality ...	5	8	13	2	8	0	10	0	2	4	6	0	2	3	1	0	1	8	20	4	32
Balasore District Board.	2	6	8	...	...	...	...	0	1	0	1	8	4	12	...	...	...	10	11	0	21
Kendrapara Municipality.	0	1	1	...	...	...	...	...	...	...	...	0	4	4	...	...	...	0	5	0	5
Koraput Jail ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	0	1	1	0	1	0	1
Private	1	3	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	0	4
Total ...	28	43	71	9	29	5	43	13	24	7	44	13	28	41	20	14	34	83	138	12	233
Percentage of adulteration	60'6 per cent.			67'4 per cent.				54'5 per cent.				68'3 per cent.			41'2 per cent.			59'23 per cent.			

G.—Genuine. A.—Adulterated. N. Op.—No opinion. T.—Total.

The item of food mostly adulterated is ghee. It appears that the so-called vegetable ghee (vegetable product or hydrogeneted fat) which is being sold everywhere without any restriction, forms the chief adulterant.

Samples of milk were found adulterated only with water and the vegetable oils with cheaper class of oils.

Pathological samples.—Work on the pathological side increased to a very large extent during the year under report. In all, 2,698 samples as stated above were examined as against 1,276 in the previous year.

Serological and biochemical examination.—These tests consisted of tests like Wasserman Reaction, Kahn, Agglutination, Blood grouping, Blood sugar and Vanden Burgh.

For Wasserman Reaction test each sample was treated with different antigens and amboceptors separately, viz., British, German, Kasauli and local preparations. Side by side Kahn test was also done for the sake of comparison. It may be noted that no discrepancy was found in any of the samples.

Other serological and biochemical tests were done as and when necessity arose.

Samples for these tests were received from all over the province.

Bacteriological cultures and preparation of autogenous vaccines.—Bacteriological cultures and isolation of pathogenic organisms from blood, urine, stool, pus, throat-swab, cerebro-spinal fluid, etc., were done not only to arrive at a correct diagnosis but also for preparation of autogenous vaccines. In such cases besides other tests biochemical reactions and results of agglutination were studied as measures of routine before giving any opinion and in many cases animal inoculation was also done.

In the preparation of autogenous vaccines the processes of isolating each and every sort of pathogenic organism present, obtaining pure cultures out of them, counting them separately and finally mixing them in proper dosage were followed.

Clinical examination of specimen.—This consists mainly of routine examination of urine, stool, blood smears, etc. Samples from the Cuttack General Hospital were being examined in the laboratory since 1938. There has been restriction to such a practice since May 1939. These samples of the Cuttack General Hospital are now mostly examined in the clinical side room of the hospital. Only in a few special instances samples are sent to the laboratory for examination. The time hitherto spent on clinical examinations will henceforth be utilised for more useful and scientific work.

Tissue Sections.—Sections were prepared by both freezing and paraffin methods in all cases.

Great difficulty is being experienced for want of accommodation although every inch of the building has been utilised. Addition of at least two more rooms will meet the present demand.

There is also an urgent need of extension of the animal house with a suitable enclosure. This will obviate the necessity of purchasing animals and will also provide greater facilities for carrying on experiments on the animals.

Work in the laboratory has increased considerably and as such it is becoming very difficult to manage the work with the existing staff. The necessity of increasing the staff was, therefore, being keenly felt. Government have since sanctioned the appointment of an Assistant Public Health Chemist and a peon.

There is no gas plant in the laboratory although it is an indispensable item. In many instances in order to obtain correct results, experiments are being repeated several times with loss of time and reagents. Proper controlling of flame becomes very difficult with a spirit lamp or a Primus stove where efficient control arrangement is absent.

CHAPTER XV.

General Remarks.

1. **Incidence of cerebro-spinal fever.**—Twenty-six cases of cerebro-spinal fever were treated in hospitals and dispensaries of which three cases proved fatal. There might have been cases occurring in the rural areas of the province other than those treated in hospitals and dispensaries, but it has not been possible to ascertain the number of such cases as there is unfortunately no legal provision for the compulsory notification of this disease. But it is hoped to make this disease notifiable in the urban areas under the Bihar and Orissa Municipal Act in North Orissa and in the South Orissa plains under the Madras District Municipalities Act and Madras Local Boards Act.

2. **Notification of infectious diseases.**—The Bihar and Orissa Municipal Amendment Act of 1935 and the Madras District Municipalities Act of 1920 provide for the compulsory notification of infectious diseases in municipal areas. In the larger municipalities the provisions of the Acts are enforced and respected too to a certain extent especially in cases of cholera and smallpox, but in the smaller municipalities particularly of North Orissa these sections of the Act remain almost a dead-letter, as the municipalities concerned have neither the organisation nor the desire to enforce them. As for the rural areas, there is no provision in the Bihar and Orissa Local Self-Government Act or the Madras Local Boards Act for the compulsory notification of infectious diseases.

The result is that when an infectious disease occurs in a particular place which frequently happens for lack of timely information prompt action cannot be taken by the authorities concerned to check its spread.

3. **Port health administration.**—There are three minor ports in the province, viz., Gopalpur in Ganjam district, Chandbali in Balasore district and Puri.

At the former two ports, the medical officers (Sub.Assistant Surgeon class) in charge of the Local Fund dispensaries have been appointed as Port Health Officers and at Puri the Civil Surgeon is the Port Health Officer. Of these three ports Gopalpur is the most important and has a regular shipping traffic with Rangoon and inland ports. During the year under report 107 vessels with 15,998 incoming passengers and 114 vessels (including 7 cargo steamers) with 19,796 outgoing passengers passed through the port. Of these vessels only one incoming vessel was inspected by the Port Health Officer, there being two cases of smallpox on board the vessel, and the vessel was properly disinfected. On the outbreak of plague in the port of Rangoon necessary measures for the prevention of the introduction of this disease through the ships were taken at this port.

The general sanitation of the town and the port was good throughout the year under report.

During the year under report 30 incoming vessels with 900 crew and 2,100 passengers approximately and 42 outgoing vessels with 1,260 crew and 2,200 passengers were inspected by the Port Health Officer at Chandbali. The number of Asiatic seamen inspected was 2,160 and that of the non-Asiatic seamen was 54.

There was only one case of cholera on board an incoming vessel. The patient was removed to the hospital and isolated. The affected portion of the steamer was thoroughly disinfected with chlorine. The contacts were also isolated and kept under observation. All the crew were inoculated against cholera and the steamer was kept under watch for three days after which it was allowed to leave the port.

The total number of deaths within the port area was 8, 2 having died of cholera, 1 of injury, 1 of cancer and 1 of splenomegally and 3 others from pneumonia. The total number of crew treated in the port quarantine hospital was 2,1 for cholera and the other for injury of spine. Both were discharged cured. In the outdoor department 83 crew were treated for various ailments and 46 passengers were treated mainly for fever and gastic derangements. Disinfection of vessels was done on two occasions during the year with chlorine.

The general sanitation of the port was good throughout the year under report except in September and October when a few cases of fever of short duration (48 hours) were reported. The cause of such fever could not be properly investigated.

Only 6 steamers called at the port of Puri during the year under report. No death or infectious disease occurred on board.

4. **Urban and rural housing condition.**—No satisfactory progress has been made since the last report for the improvement of the urban and rural housing conditions in the province. Although model by-laws have long been framed under the Municipal Act for the regulation of construction of building in urban areas, the local bodies concerned seldom appreciate the necessity for enforcing them. In the rural areas conditions are anything but satisfactory. In villages people construct houses on their own lands without the least idea of a well-thought-cut plan or with any consideration for sanitation and ventilation. Houses are generally made cf mud walls and thatched roofs They are in most cases dark and ill-ventilated and consequently damp There is no proper drain in these houses for the discharge of waste water. There is no law to regulate the construction of buildings or houses in the rural areas. Well-to-do and educated people have, however, begun to appreciate the value of well-planned houses.

5. **Leprosy relief.**—The anti-leprosy scheme which was sanctioned by Government for the whole province was in operation during the year A separate report is published giving details of the work. During the year the work was mainly concentrated in holding an expert survey of this

infection, carrying on intensive propaganda in villages and organising the various treatment centres. In order to arouse public interest and ensure co-operation, pamphlets and literature on leprosy were widely distributed and village leprosy relief committees were formed in all districts.

The total number of villages surveyed was 2,271 with a total population of about 822,629 and the number of cases detected among them was 5,690 showing an incidence of 0·7 per cent. The total number of patients registered both at the leprosy clinics and survey centres up to the end of the year under report was 13,179 of which 9,625 were receiving treatment. The incidence of leprosy among scholars in the various educational institutions of the province was found to be 0·9 per cent. Twenty-eight new treatment centres (clinics) were opened during the year showing an increase of about 34 per cent over the previous year's figures. Nine out of these new clinics were opened in the interior of the districts where there are no dispensaries near at hand and these clinics are managed by specially trained compounders under the supervision of the District Leprosy Officers.

The activities of the anti-leprosy work which is now controlled by the Provincial Branch of the British Empire Leprosy Relief Association through the Provincial Leprosy Relief Officer and District Associations are embodied in a separate report published by the Association, which forms an appendix to this report.

6. **Nutrition.**—The question of investigation of the problem of human nutrition in the province was not properly taken up in any appreciable form during the year under report.

A modest scheme to carry on diet survey was submitted to Government for their sanction with a view to put that scheme into operation in one of the small districts of this province. This has since been sanctioned and two Health Inspectors temporarily appointed with a short training on the subject are carrying on the work in the district of Puri under the supervision of the Assistant Director of Public Health.

The School Medical Officer is giving the school students some idea about balanced diet and its relation to maintenance of health in proper condition in course of his visit to the different schools in the province. Calcium lactate is being administered to school children under Government control and this is also being encouraged in some of the schools maintained by the local or private bodies.

The Assistant Director of Public Health in his vaccination tour continued to look into the nutritional defects among the children examined for vaccination and gave necessary instruction as to how to correct such defects by consuming particular articles of food locally available and tried to impress on the rural public about the necessity of balancing their diet. People are being advised to take more protective foods available to them with the limited money they spend on their diet and propaganda is being made impressing the necessity of taking such foods as would keep them fit and protect them from disease. Copies of the Health Bulletin No. 23 "The Nutritive value of Indian foods and the planning of satisfactory diets" were purchased and distributed throughout the province. The medical and public health officers were also kept informed about the development in this branch of the science.

Two selected school teachers one of whom is an L.M.P. were sent to Coonoor for practical nutritional training, and on their return they are doing satisfactory work in the school to which they are attached. This training of doctors and school teachers at Coonoor is being encouraged.

The chief difficulty with regard to any nutritional work on model scientific lines and on approved plan is want of money; when this is available, it is hoped, work will be started on a large scale.

7. **Rural water-supply.**—The local bodies concerned spent the following amounts for the improvement of rural water-supply, viz., for sinking and repairing wells, sinking tube-wells and excavating and re-excavating tanks in rural areas in the year 1938-39:—

District.	Rs.
Cuttack	10,998
Puri	4,281
Balasore	3,489
Sambalpur	2,486
Ganjam	995
Koraput	852

Fifteen tanks were excavated and 1 tube-well, 72 earthen ring wells and 2 stone ring wells were sunk in addition to repairing of 9 tanks and 106 earthen ring wells in Cuttack district.

Five tanks were excavated and re-excavated and 13 wells were sunk and 4 wells were repaired in Puri district.

Three tube-wells and 1 masonry well were sunk, 3 old tanks were re-excavated, improvement to 4 wells were made and 15 masonry wells and 60 tube-wells were repaired in Balasore district.

The Board has employed two tube-well mistries permanently for looking after the tube-wells sunk throughout the district. Some work in this direction has also been done by the District Magistrate out of the rural development fund.

The chief sources of water-supply in the district are tanks, rivers and canal, besides masonry and tube-wells in small numbers. Tube-wells are being supplied by taking only a nominal contribution from the villagers who are benefited thereby; excavation of tanks and shallow wells is discouraged.

Two tanks were excavated, 2 wells were sunk and 4 wells were repaired in Sambalpur district.

Two tanks, 1 tube-well and 9 wells were repaired and wells were sunk in Ganjam district.

The sources of water-supply in Koraput district are hill streams, rivers, springs and wells. The amount spent on water-supply was spent in repairing wells.

The local bodies are always being advised to provide deep masonry wells in preference or cement concrete ring wells to serve as sources of drinking water-supplies. The construction of shallow earthen ring wells and tanks which cannot be relied upon as safe sources of drinking water is being discouraged.

In some of the coastal areas of the province, specially which are liable to inundation, the question of supply of good drinking water is somewhat difficult to solve. Wells have been a failure in many such places as they yield brackish water not suitable for drinking purposes. The District Boards have, therefore, been advised to excavate tanks in these areas only which should be protected by proper fencing and by high embankments to prevent animals and flood water entering therein and should be reserved for drinking purposes only. With regard to the general question of water-supply for domestic purposes in the rural areas it is again pointed out that this is in a most unsatisfactory state. It is due to the inadequacy of pure and wholesome drinking water in the villages that cholera, dysentery, enteric fevers and other bowel diseases have taken a deep hold in the rural areas in recurring waves of infection in epidemic form. I would strongly urge that in the scheme of rural reconstruction of the villages the water-supply problem will engage the serious attention of

the authorities. The District Boards will do well to plan out a well-thought-out 5 or 10-years scheme of rural water-supply by constructing deep masonry wells as far as possible or failing which by cement concreting wells.

8. **Personal proceedings and office.**—During the year under report I held charge of the Department from 1st January 1939 to 20th May 1939 and again from 11th September 1939 to 31st December 1939. During the period from 21st May 1939 to 10th September 1939, when I was on leave, Major P. L. O'Neill, F.R.C.S.E., D.L.O., I.M.S., remained in charge of the Department. Rai Sahib Dr. B. Nayak, M.B., D.P.H., held the post of the Assistant Director of Public Health throughout the year.

9. **Touring.**—I was on tour for 85 days and the Assistant Director of Public Health for 99 days during the year under report.

10. **Conclusion.**—As in the previous years the Department has passed through another year of stress and hard work, and whatever success that one might venture to claim in the advancement which we have made in the various spheres of public health activities in the province it must to a large extent be ascribed to the loyal co-operation and hard work cheerfully carried out by the entire personnel of the Public Health Department, in which I would heartily associate the Health Officers of all the districts and municipalities and their staff as well as all the Civil Surgeons, especially the Civil Surgeons of Ganjam, Koraput, Sambalpur and Cuttack who have under their direct charge large areas for public health administration. The Malaria Officer and his staff and the School Medical Officer and his small staff have also done notable work. These remarks will not be complete if I failed to bring to the notice of Government the substantial help and co-operation which I have all along received from Rai Sahib Dr. B. Nayak, M.B., D.P.H., the first Assistant Director of Public Health, appointed for the province since the submission of my previous year's report.

With the sympathetic help and advice which the Department has received from the Government from time to time in numerous ways, especially in financing many new schemes I have been invariably encouraged to look forward to greater measure of public health development in the province that still awaits solution. The response from the general public too has been encouraging.

G. VERGHESE, LT.-COL., I.M.S.,

Director of Health and Inspector-General of Prisons, Orissa.

Annual Vaccination Report of the Province of Orissa for the year 1939-40.

The statistics in the Vaccination Report are for the financial year as hitherto followed, while the statistics in the Annual Public Health Report are for the calendar year.

2. **Staff.**—I held the charge of the office of the Director of Health and Inspector-General of Prisons, Orissa, throughout the whole period under report except from 21st May to 10th September 1939, when I was on leave and Major P. L. O'Neill, I.M.S., officiated.

Rai Sahib Dr. B. Nayak, M.B., D.P.H., held the office of the Assistant Director of Public Health, Orissa, throughout the whole period under report.

The provincial vaccination inspecting staff consisted of 2 District Inspectors of Vaccination, 4 Sub-Inspectors of Vaccination, 19 Health Inspectors and 34 vaccinators. The total number of vaccinators employed during the year 1938-39 was 286, of whom 22 were employed in towns and 264 in rural areas. Vaccination is performed by paid vaccinators in the municipal areas and also in the districts of Ganjam and Koraput, while licensed vaccinators are generally employed to perform vaccination in the rest of the areas of the province. Primary vaccination is compulsory in all the municipalities of North Orissa and in the district of Puri, whereas in Ganjam plains including the municipalities both primary and re-vaccination are compulsory. In the Agency areas of Ganjam and Koraput vaccination although free is not compulsory. Attempts are, however, being made to introduce compulsory vaccination in some selected areas of these agencies. In the districts where vaccination is performed on a licence system the licensed vaccinator is allowed to charge a fee of annas two for each vaccination operation performed in the houses. Vaccination is, however, given free at the Public Vaccination Depots which have been set up at central places in all areas where vaccination is compulsory. Besides these licensed vaccinators paid vaccinators are also employed by the local bodies for short periods to deal with outbreaks of smallpox. During the time of severe epidemics temporary vaccinators are also appointed by Government.

3. **Operations performed.**—706,275 vaccination operations were performed during the year as against 640,691 during the previous year. This shows an increase of 65,584 in the number of operations as compared with the figure for 1938-39.

696,711 operations were performed by the vaccination staff as against 630,960 done in the preceding year. Of these 231,097 were primary and 465,614 re-vaccinations as against 237,888 primary and 393,072 re-vaccinations in the preceding year. Although vaccination is generally recognised as the only preventive measure against smallpox, it has not yet become as popular as it should be with the masses in the province steeped down as they are in superstition, ascribing this infection to the visitation of an enraged goddess. It is only when smallpox breaks out in an epidemic form the people show some degree of willingness to get themselves and their children vaccinated, but when the epidemic is absent the incentive is much less and the number of vaccinations performed also falls accordingly. This, of course, is also due to the fact that the individual is called upon to pay for his vaccination and there is yet unfortunately no provision for compulsory vaccination. In the absence of free and compulsory vaccination in these large areas which, of course, is the best and the only procedure that should be aimed at and in consideration of the present financial condition of the province, a scheme for introducing compulsory vaccination on license system has been submitted to Government for their consideration. This scheme when introduced will no doubt bring about some definite and substantial improvement over the present state of affairs and thus in the matter of preventive measures against smallpox. Orissa which is gaining an unenviable position as being one of the worst centres of this disease may assume a worthy place in the ranks of progressive states.

There was a decrease of 6,791 in the number of primary operations and an increase of 72,542 in the number of re-vaccinations carried out during the year under report. Of the operations of which the results were known 76·32 per cent were successful as against 78·74 in the previous year. The number of operations performed in the municipalities increased by 24,516 as compared with the last year's returns on the wake of a severe outbreak of this disease. The total number of operations performed was 68,608 and the number of successful operations was 31,795 of which 6,862 were primary and 24,933 re-vaccinations as against 5,973 and 13,249 respectively in the previous year. The ratios of success in municipalities were 98·37 per cent for primary operations and 52·56 per cent for re-vaccinations as compared with 97·38 per cent and 49·02 per cent respectively of the last year.

The number of operations performed in the rural areas was 628,103 as compared with 586,868 in the preceding year and ratios of success were 97·20 per cent for primary operations and 63·79 per cent for re-vaccinations.

4. **Vaccination in the districts.**—The districts of Cuttack, Balasore and Puri recorded increase of 59,926, 10,460 and 19,103 in the number of vaccination operations performed respectively and the persons successfully vaccinated for 1,000 of population in those districts were 33·51, 40·10 and 43·46 respectively. In all these districts vaccination is supervised by the Health Officers of the District Boards.

The districts of Sambalpur, Angul and Koraput recorded decrease of 65,465, 8,988 and 2,276 respectively in the number of cases vaccinated whilst Khondmals recorded an increase of 2,931 and persons successfully vaccinated per 1,000 of population in those districts were 63·25, 52·69, 37·15 and 67·93 respectively. The Civil Surgeons of the districts of Cuttack and Ganjam supervised the vaccination of Augul and Khondmals districts respectively. The Civil Surgeons of Koraput and Sambalpur supervised the vaccination work in Koraput and Sambalpur districts.

The district of Ganjam recorded an increase of 49,893 and 65·64 persons were successfully vaccinated per 1,000 of population of the district during the year under report. The vaccination in the agency portion of the district is controlled by the Civil Surgeon of Ganjam and in the plains portion of the district by the District Health Officer, Ganjam.

5. **Vaccination in towns.**—Statement V shows that during the year 1,433 children under one year of age out of an available number of 4,694 or 30·53 per cent were successfully vaccinated.

6. **Protection of infants.**—During the year under report the number of children under one year available for vaccination was 243,781 and the number of successful operations was 68,837 or 282 per thousand as against 67,879 or 286 per thousand successful operations out of 237,445 available children during the previous year. The vaccination state of infants in municipalities is separately shown in Statement V. It gives a ratio of 305 per thousand of the surviving infant population as compared with 390 per thousand in the previous year. These figures still remain unsatisfactory inasmuch as they show that nearly two-thirds of the total number of infants under one year were left unvaccinated in the rural areas and a little more than one-third in the municipal areas. This is attributed to the common prejudice of the people against vaccination at an early age and to the lack of an organised scheme of compulsory vaccination, even at least primary vaccination, except in the larger municipal towns. Though primary vaccination is compulsory in all the municipal towns and in the two districts of the Province, vaccination of the infants and children is avoided by many people. Attempts are, however, being made to improve this state of affairs in the areas, where registration of births is compulsory by maintenance of the proper records showing the unprotected children.

7. **Incidence of mortality of smallpox.**—The total number of deaths that occurred from smallpox in the province during 1936-37, 1937-38, 1938-39 and 1939-40 was 3,331, 2,633 3,065 and 4,671 respectively. Thus there has been an increase in the number of cases during the year under report than in the preceding year.

8 **Prevention of smallpox.**—The proportion of vaccinated persons in the province still remains far below the figures necessary to prevent epidemic outbreaks and although the total annual vaccination operations amounts to more than 7 lakhs or so, these are quite insufficient to ensure the immunity of the total population against smallpox. Hence the incidence of this disease continues to remain high. This state of affairs is not so much due to insufficiency or inefficiency of the existing arrangements for vaccination in the province as it is to the inherent apathy of the public towards the simple and efficient method of protection coupled with the absence of any provision for compulsory vaccination. Smallpox is a preventable disease and the vaccination can prevent it. In the light of this knowledge and in face of the unsatisfactory vaccination state of the people, there is a great necessity for a more vigorous and complete vaccination policy. Vaccination has been made compulsory for many years in all municipal towns but all the provisions of the Act do not appear to be rigidly enforced, with the result that a great proportion of the children do not get vaccination until they cross the first year of their lives. Besides a large number of unvaccinated persons are to be found in every municipal town. The municipal authorities, it is hoped, will strictly enforce the provisions of the beneficial act, a responsibility which they ought to discharge without fear or favour.

The incidence of smallpox can be definitely prevented, provided vaccination is practised and it is unfortunate that re-vaccinations are always accepted with reluctance and people do not seem to realise that immunity conferred by primary vaccination wears out within 5 to 7 years. Thus during epidemics the percentage of protected persons is small and not until the disease has had its toll that the public realise the importance of re-vaccination. Prejudices born of ancient traditions die hard and appear to be the chief obstacles in the way of pushing vaccination amongst the masses. Much of the efforts of the public health staff has, therefore, to be directed towards overcoming these obstacles. Vaccination operations are easily done and generally cause no complications. No case of encephalities following vaccination has so far been recorded in this province.

Almost all the District Boards with health organisation scheme have now assumed the responsibility of the control of vaccination in the rural areas; but the cost they incur in enforcing the vaccination scheme is insignificant.

In the rural areas of North Orissa the Bengal Vaccination Act of 1885 is in force in Puri district only. Vaccination and re-vaccination are compulsory in the Plains portion of Ganjam district under the Madras Local Boards Act of 1920. It is absolutely necessary that vaccination should be made compulsory throughout the province.

9. **Inspection of work.**—During the year I inspected a large number of vaccination cases, both primary and re-vaccination, as in the previous year. The Assistant Director of Public Health also inspected a still larger number of vaccination cases during the year. The vaccination results on the whole were found to be satisfactory.

In all cases where avoidable wastage of lymph was detected, cost of the same was realised from the vaccinators concerned.

Mistakes in the techniques and the deviation from the rules on the part of the vaccination staff wherever observed were pointed out and prompt action was taken to rectify them.

Improvements were effected in many areas with regard to vaccination outfits, and also in the minor defects noted in the organisation of the actual work.

Superintendents of vaccination of the districts inspected 10,478 primary and 8,261 re-vaccinations against 8,475 primary and 9,782 re-vaccinations of the last year. As in the preceding year inspection work of the vaccination inspecting staff was satisfactory.

10. As no arrangement exists in this province for the manufacture of vaccine lymph the total requirement of vaccine lymph was purchased from the Bihar Government's Vaccine Depot at Namkum and was supplied free to the local bodies of the province. 620,973 doses of vaccine lymph at a cost of Rs. 8,085-9-2 were purchased during the year under report.

A statement showing the quantity of vaccine lymph supplied to the various districts of the province is given below:—

District.			Doses.
Cuttack including Angul	...	...	209,664
Balasore ...	...	...	70,795
Puri ...	...	...	70,940
Sambalpur ...	...	...	74,380
Ganjam including Khondmals	...	...	151,080
Koraput ...	...	...	44,114
	Total	...	620,973

11. **Method of vaccination.**—Vaccination operations are performed with rotary lancets in the districts of Ganjam and Koraput and with ordinary bleeding lancets in the rest of the province.

12. **Post-vaccination operations.**—As in the previous year no complaint of post-vaccinal encephalitis or any other complication after vaccination was received during the year under report.

13. **Cost of the Department.**—The total cost of the Vaccination Department excluding the cost of vaccine lymph during the year as noted in Statement I was Rs. 61,419-10-1 as against Rs. 61,410-15-3 of the previous year. The cost of each successful case of vaccination during the year was Re. 0-2-7 as was in the previous year. When, however, the cost of vaccine lymph was taken into account it worked out to Re. 0-2-11½ as against Re. 0-2-10 in the previous year.

14. **General remarks.**—In North Orissa the licensed system of vaccination under which people have to pay a fee for vaccination is most unpopular amongst all classes of people, particularly amongst the poor, with the result that vaccination, which should be regarded as one of the greatest benefactions of science to humanity has to be pushed through under heavy odds. In South Orissa in the district of Ganjam (Plains portion) it is both compulsory and free. People in North Orissa invariably are beginning to demand free vaccination which cannot evidently be given under the licensed system now in vogue. As vaccination against smallpox is the only preventable and surest remedy against the disease, time has now come to consider whether it is not necessary to enforce compulsory vaccination and re-vaccination amongst the people in order to save them from the appalling recurrence of this fell disease, practically year after year and month after month throughout North Orissa. The incidence of this preventable disease is not only high but also the toll of health or life arising from this infection is comparatively high. The only satisfactory remedy is to make it both compulsory and free, and Orissa will thus come into line with most of the sister provinces in India in affording every satisfactory measure of protection to the people from this infection.

G. VERGHESE, LT.-COL., I.M.S.,

Director of Health and Inspector-General of Prisons, Orissa.

Summary of the activities of the Public Health Circle relating to the sanitary improvements in rural and urban areas of Orissa during the calendar year 1939.

The Public Health Engineering works in Orissa during the year 1939 were as in the previous year carried out by the Executive Engineers, Southern and Ganjam Divisions, under the direct control of the Superintending Engineer, Public Health Circle, Bihar.

Puri water-supply.—The Puri water-supply was maintained on behalf of the Puri Joint Water Works Committee until 31st March 1939. From 1st April 1939, the maintenance was handed over to the Joint Water Works Committee, Puri. Against the sanctioned estimated amount of Rs. 12,51,577 for Puri Water Supply Scheme (Main scheme—Rs. 11,84,500 and Supplementary scheme—Rs. 67,077) the expenditure incurred amounted to Rs. 9,18,558 at the end of the year and that incurred during the year was Rs. 8,162. The work was completed except certain petty items.

Berhampur water-supply.—The Berhampur water-supply was maintained in fair order by the Municipality under the general advice of the Public Health Circle, Bihar.

Work to the value of Rs. 53,882 was carried out during the year of which expenditure on Government works was Rs. 29,637 and on deposit works Rs. 24,245.

The construction of a tube-well at Ratlangpat for irrigation purposes was taken up and completed during the year.

A precis showing the activities of the Public Health works as far as they relate to the sanitary improvement of the urban and the rural areas in the province of Orissa during the calendar year 1939, is given below :—

PREPARATION OF SCHEME.

MAJOR PROJECTS.

Government work.

	Rs.
1. Sinking of two experimental tube-wells at Brahmagiri and Ratlangpat.	18,840
2(*a*) Revised Estimate for water-supply and sanitary installation in the Leporsy Clinic at Cuttack General Hospital.	7,645
(*b*) Ditto Supplementary Estimate for connecting the female Septic Ward drains into the sewerage system.	462

Deposit works.

	Rs.
3. Puri water-supply—Revised abstract of estimate ...	9,34,297
4. Outfall drainage scheme for the Tulsipur area at Cuttack Municipality.	7,245
5. Water-supply to Parikud and adjoining areas ...	6,724
6. Proposed 20-seated water flushed septic tank latrine at Puri	5,355

MINOR PROJECT.

Detailed minor estimates amounting to Rs. 47,216 (Government work—Rs. 41,573 and deposit work—Rs. 5,643) were prepared and submitted either to Government or to the local authorities concerned.

The Annual Report of the Executive Committee of the Provincial Council of the British Empire Leprosy Relief Association (Indian Council), Orissa Branch for the year 1939-40.

On behalf of the Executive Committee of the Provincial Council of the British Empire Leprosy Relief Association (Indian Council) Orissa Branch, I have much pleasure in presenting the Third Annual Report for the year 1939-40.

This Association has just completed the third year of its existence and has had the privilege of having worked out under its auspices, the scheme for anti-leprosy work of the Orissa Government for a year and a half.

The scheme was put into operation since the 1st October 1938, in accordance with Government letter No. 5062-L. S.-G., dated the 17th September 1938.

The main features of the scheme.

The main features of the scheme are based on the modern treatment of leprosy, and the isolation of infectious cases. The latter includes home, village, or colonial isolation in groups of villages. Due emphasis has also been given to survey and propaganda which are indispensable methods of the campaign.

Treatment.

The Medical Officers of the 166 dispensaries in the Province have undertaken the treatment of lepers, wherever necessary, as a part of their legitimate duties. Special allowances enjoyed by officers for this work have therefore been withheld. Almost all the dispensaries are now catering for primary treatment. There is now therefore no longer any necessity for a separate set of doctors being maintained for the treatment of lepers. This has removed financial impediment to progress.

The number of treatment centres attached to dispensaries has increased from 82 in the year 1938 to 110 in the year under report. Besides these dispensary clinics five rural treatment centres were opened in some of the remote rural places of the province where the incidence is very high and the nearest dispensary is far off. These latter clinics are managed by the specially trained leprosy assistants of the rank of compounders under the direct supervision of the District Leprosy Relief Officers.

The total number of cases registered both at the clinics and survey centres is 13,179 and those under treatment during the year under report were 9,625 ; out of which 3,021 were admitted to the clinics in the year 1939. The percentage of cases amongst these who have shown some degree of definite improvement after a year's treatment is calculated to be 96·6.

Survey and Propaganda.

In order to popularise these dispensary clinics and to bring thoroughly home to the people the necessity for treatment and isolation of infective cases, these clinics have been taken up by the District Leprosy Relief Officer one after another as the centre for intensive leprosy survey and propaganda within a radius of five miles in the first instance. During the course of his work he makes a survey in villages by house to house visits, distributes pamphlets and various literatures on the subject, and delivers lectures with or without the aid of magic lantern as the occasion demands. He also forms Village Leprosy Relief Committees through which he advises infective cases to be isolated in the village or at least in their own homes. When his work at a particular centre is completed, which usually takes one to two months, the District Leprosy Relief Officer leaves a "Register of Lepers" of that centre at the local dispensary for the use of the Medical Officer to help him to carry on the work of treatment and to ensure satisfactory regular attendance at the clinic.

In the manner as stated above, intensive survey in 55 (dispensary) centres and 14 other rural centres has been made during the year under report with a detection of 5,699 cases in 2,271 villages having a total population of 8,22,629. In addition to these, 305 schools, both primary and secondary, with a population of 14,000 were visited, and 129 cases were detected. These figures present an incidence of 0·7 per cent for the villages calculated on the total population of villages and 1·5 per cent of the total number of people actually examined. The incidence in the educational institutions so far works up to 0·9 per cent.

Isolation, which is one of the most important aspects of our scheme, and very essential for controlling the spread of leprosy, is admittedly difficult in its practice due to social, economical and cultural factors. At any rate since this is very important from the point of view of public health, the scheme has well recognised the primary necessity for educating the public on the problem of the disease regarding its causation, spread and its remedy. When the mass mind is enlightened isolation of infective cases may be effected more easily and on a more extensive scale. This evidently means a province-wide propaganda through lectures, display of attractive posters in prominent public places, and through the distribution of pamphlets and bulletins in local languages.

This propaganda work is mainly carried out by the Provincial Leprosy Relief Officer, the District Leprosy Relief Officers and their staff. They constantly tour the districts, deliver lectures with or without the aid of magic lanterns, in schools and in villages and towns. The District Health Staff and the School Medical Officer do also play an important part in this respect. Pamphlets in Oriya, English and Telugu which have been printed in thousands and numerous other bulletins are being distributed through the District Leprosy Council, the Village Leprosy Relief Committees and the District Leprosy Staff and also through School Teachers and the Public Health Staff. As will be evident from the Appendix, these activities have received good response in some parts of the province. Materials for propaganda including magic lanterns, camera and other accessories have been purchased out of the non-recurring grant of Rs. 3,000 from the Government.

In order to suit the local needs, six sets of slides, with explanatory notes in the language of the province have been designed and supplied to the District Leprosy Staff for propaganda work. These slides demonstrate in an analogical way the mode of transmission of the disease and the measures to be adopted to get rid of it.

Special booklets and pamphlets on the subject of leprosy written in a popular language for easy comprehension of the lay public were purchased by the Association and distributed to schools, clinics and some of the village clubs. Books entitled "What the public should know about leprosy", "Organisation of a Campaign against Leprosy" and "Leprosy Readers" are some of the examples of such popular literature. This method disseminates the knowledge among the literate section of the mass; to educate the illiterate on the subject leprosy stalls presenting coloured pictures and clay models were opened in Health Exhibitions and also in Cattle and Agricultural Exhibitions. At certain places the problem of leprosy has been dramatised and staged on public platforms in connection with Health Exhibitions

Permission has been sought from railway authorities to allow certain coloured charts and leprosy posters to be posted in railway platforms and waiting rooms.

The number of infectious cases now under isolation, either of the home, village or institutional variety is 782, showing an increase of 247 cases over the previous year.

Considering the limited staff and the magnitude of the work, the co-operation of voluntary workers is quite imperative to make the campaign a success. This however is being obtained by organising Subdivisional and Village Leprosy Relief Committees, some of which have shown keen enthusiasm and interest

Isolation.

The Provincial Leprosy Relief Officer, during the course of his tour, has been trying to impress on the members of the Subdivisional and Village Leprosy Relief Committees and on the public in meetings, the great necessity of starting insolation colonies. In certain areas such as Jajpur, Kendrapara, Parlakimedi, Nial, Sambalpur and other places, the question of finding suitable sites for this purpose, has been taken up and is now under consideration.

In the district of Ganjam, a colony has already been opened in Lathi, a place two miles away from Berhampur, and in Parlakimedi the Local Leprosy Relief Committee has been granted a sum of Rs. 1,000 for starting a similar colony as soon as possible.

In the Sambalpur district a site near Junai has been provisionally selected for a similar colony and it is hoped that through the enthusiasm of the members of the Sambalpur District Leprosy Association, the work will be taken up soon.

At Nial in Khurda subdivision where the incidence is very high, the District Magistrate has been requested to acquire the necessary land, and it is hoped that small inexpensive buildings will soon be put up for forming a colony there.

The six districts in the province have each a District Leprosy Relief Council in various stages of evolution, but excepting Ganjam the other districts had not commenced work earnestly during the year under report. The organisation of anti-leprosy work in the districts has, therefore, been managed to a large extent by the Civil Surgeons. In Puri, Ganjam, Sambalpur and Koraput districts they have been taking special interest in the problem. It is however, expected that all the District Councils will soon be affiliated to the Provincial Association and will function constitutionally. Nevertheless through intense propaganda and persuation by the Leprosy Relief Staff a number of Village Leprosy Relief Committees have been formed in all the districts and some of these Committees have been doing satisfactory work by way of rendering financial and moral support to the Anti-Leprosy Campaign.

The total number of village Committees so far formed in various districts is 93, out of which 30 are actively functioning already.

Return and statistics.

In order to organise the treatment and the survey work at various centres a univerval system of forms of various kinds pertaining to the informations regarding survey and treatment has been introduced in the province. Details of instructions as to the minimum equipments and drugs required for a model leprosy clinic, have been also issued to all Medical Officers in printed forms. Prescribed forms for monthly and annual returns of work from the District Leprosy Relief Officers and Leprosy Assistants regarding the details of attendance and treatment of cases at the clinics have been supplied. All these returns are being received regularly by the Provincial Leprosy Relief Officer who co-ordinates these figures which are so essential for valuable statistical purposes.

Executive Committee.

The Executive Committee met four times during the last year, sanctioned the following important items of special expenditure and transacted many other important business, some of which are detailed below :—

Rs. 500 was paid to the Joint Honorary Secretary, Ganjam District Leprosy Relief Council, for starting an insolation colony at Lathi.

Rs. 1,000 was paid to the President, Paralakimedi Leprosy Relief Committee, in order to start an isolation colony at Parlakimedi.

A sum of Rs. 700 was paid to the Joint Honorary Secretary, Ganjam District Leprosy Relief Council, for disbursement to various leprosy clinics in his district for feeding and clothing patients.

A sum of Rs. 400 was paid to the Civil Surgeons of Puri, Cuttack, Balasore, Sambalpur and Koraput for feeding and clothing patients attending leprosy clinics within their jurisdictions.

Rs. 250 was paid to the Civil Surgeon, Puri, towards the purchase of drugs and equipments for the three compounders' clinics at Delang, Dadhimachhagaria and Haladia in the district.

A sum of Rs. 110 in two instalments was paid to the Civil Surgeon, Ganjam, for the purpose of purchasing drugs and equipments for the use of the isolation colony at Lathi.

A sum of Rs. 50 was paid to the Secretary, Jajpur Leprosy Relief Committee, towards the purchase of drugs and equipments for the use of the Chitale Leprosy Clinic started mainly by the enterprise of the local inhabitants under the direction of the Health Officer of the Cuttack District Board.

The Ganjam District Leprosy Relief Council started an isolation colony at Lathi for which a further sum of Rs. 500 was paid to complete the building which has since been opened for use.

1,500 copies of "Leprosy Readers", published by Rao Bahadur M. V. Appa Rao, were purchased at a cost of Rs. 300 and distributed through the District Leprosy Officers during the course of their tours.

Slight changes were made during the year regarding the payment of salaries of the District Leprosy Relief Staff.

For want of women workers, our work amongst women in the rural areas has not advanced as much as we wish to. We are hoping, therefore, to employ some trained women workers to carry on intensive work amongst them.

It has been proposed to open a Provident Fund for the employees under the Association.

Is is worthy of note that at the request of the Executive Committee the Orissa Women's League of Service was pleased to form a leprosy relief sub-committee. The members of the sub-committee visited the leper clinics at the General Hospital and at the Municipal Dispensary, Cuttack, and distributed fruits, germinated grams, etc., and gave necessary advice to the women patients. At their intervention the clinic house at the Municipal Dispensary has been made pucca and walled all round for the special convenience of the female patients.

The Executive Committee sent out a special appeal to the general public for financial help. So far very little response has been received. It is true that the demand on the purse of the people has increased a great deal, but as this important national work must continue for the benefit of the public the necessity for financial aid from whatever sources will always be a pressing need for the extension of our work. We hope our appeal will meet with better response next year. It would have been utterly impossible to carry on the extensive work which we are now shouldering but for the very liberal grant which we have received from the Government; and practically the main scheme of our work has been financed by Government.

Finance.

There was a credit balance of Rs. 4,745-8-6 at the beginning of the year 1939-40. An amount of Rs. 34,863-11-9 was received during the year under report, as tabulated below. Thus the total receipt amounted to Rs. 39,609-4-3.

Out of Rs. 39,609-4-3 being the total receipt in the year under report a sum of Rs. 20,583 was spent in the different heads leaving a balance of Rs. 19,026-4-3 at the close of the year. The details of receipts and expenditure may be evident from the following:—

RECEIPTS.

	Rs.	a.	p.
1. Government grant	33,072	0	0
2. Grant from the British Empire Leprosy Relief Association.	1,137	8	0
3. Financial Support from the District Leprosy Relief Council, Berhampur.	20	0	0
4. Donations from His Excellency the Governor of Orissa.	500	0	0
5. Donations from the public	19	3	0
6. Subscriptions from Ordinary members ...	60	0	0
7. Subscriptions from Supporting members ...	6	0	0
Grand Total ...	34,814	11	0

EXPENDITURE.

	Rs.	a.	p.
1. Pay and allowance of the Association staff ...	12,261	5	6
2. Propaganda materials	2,360	13	6
3. Grant in aid of District Branches ...	4,700	0	0
4. Grant in aid of clinics	617	8	0
5. Printing, stationery and other contingencies ...	413	12	3
6. Imprest account	226	8	9
Grand Total ...	20,583	0	0

A separate audit report for the year 1939-40 has been printed and is laid on the table, a perusal of which will explain how we stand in regard to finance. Certain suggestions and minor objections pointed out by the auditor have been noted by the Executive Committee for guidance and necessary action. In all cases where financial aid was necessary, the Executive Committee has met all reasonable demands after careful scrutiny. It is expected that when the colonial scheme of isolation is put into extensive operation which we hope to do during the coming year, more money will be required which, thanks to Government aid, we are in a position to meet.

Conclusion.

From a perusal of the appendices attached to this report it will be clearly evident that with the opening of new centres of survey and propaganda more cases of leprosy are gradually being brought to light. From the number of lepers so far registered from amongst a population of about eight lakhs it may be deduced, with a fair degree of accuracy, that the leper population in the province ranges from 1 to 1·5 lakhs.

It is, however, gratifying to note that a sense of sympathy and co-operation has dawned upon the masses, and should it continue un-interrupted for a long time the problem of leprosy in Orissa will, as we hope, be successfully combatted in time to come.

It will not be out of place to quote the following extract from the review made in the "Leprosy in India", Vol. XI, No. 4 on the scheme for anti-leprosy

work in Orissa prepared by the Director of Health and Inspector-General of Prisons and approved by the Provincial Government. It reads as follows :—

"We may congratulate the Orissa Government on making a commendable move and initiating an anti-leprosy campaign in the province. Their experiments with isolation have got a far-reaching importance not only for Orissa but for the whole of India. The only effective method known so far to control the spread of leprosy is the isolation of infectious cases. The ideal method of isolation is, no doubt, the isolation in an institution. But in view of the large number of lepers in the country and the present finances of the country it can be said that for a long time to come, isolation in institutions would be impossible for all but a small fraction of infectious cases. It is estimated that there are about one million of lepers in India and we may assume that about a quarter of them are infectious. All the existing institutions in the country have a total accommodation for not more than about 14,000 lepers. If all this available accommodation could be used for the infectious cases only about one-twentieth of them could be taken care of in these institutions. It is simply impossible to multiply the accommodation twenty times within a reasonable limit of time. So that with all the efforts that should be made to increase the number of institutions it would be essential to evolve some method of isolation suited to Indian conditions whereby a large number of infectious cases could be isolated within the available resources of the country. The experiment of Orissa Government in this direction will be watched with great interest by all the leprosy workers in India."

We would like to place on record our appreciation and thanks for the good work done during the difficult year under review by the Provincial Leprosy Relief Officer and all the District Leprosy Relief Officers and the leprosy assistants. We would also thank all the Civil Surgeons and other medical officers as well as all the Health Officers and the Health Staff of the districts for their invaluable help. Amongst the general public it is too numerous to mention the names of those who have helped and sympathised with our cause. But to all of them too we offer our thanks especially to the Orissa Women's League of Service and Rai Sahib Dr. Isaac Santra for his visit to this province again last year. We thank our donors and our Bankers, the Imperial Bank of India, Cuttack.

The success we have so far achieved in the prosecution of the scheme of anti-leprosy campaign in this province has to a very great extent depended upon the invaluable help and advice we have received in numerous ways from the Government and from the Medical and Public Health Department and we tender our grateful thanks to them. Above all we have been guided and inspired by His Excellency and Lady Hubback in the work we have undertaken, and for the keen interest and practical sympathy they have shown in numerous ways in the cause of anti-leprosy work in the province, we respectfully tender to them our grateful thanks.

J. RAO,

Honorary Secretary.

ANNUAL FORM NO. I.—*Births registered*

1	2	3			4		
No.	Districts.	Population for which returns were received.			Number of births registered.		
		Male.	Female.	Total.	Male.	Female.	To
1	Cuttack	1,028,134	1,148,573	2,176,707	16,900	85,196	
2	Balasore	480,518	510,082	990,600	16,614	15,476	
3	Puri	500,214	534,940	1,035,154	18,229	16,942	
4	Sambalpur	522,140	543,470	1,065,610	20,863	19,714	
5	Angul	68,694	71,764	140,458	3,598	3,325	
6	Khondmals	40,231	42,047	82,278	1,744	1,640	
7	Ganjam Plains	581,070	707,404	1,288,474	27,178	25,679	
	AGENCY DISTRICTS.						
8	Ganjam	131, 493	135,168	266,661	1,644	1,579	
9	Koraput	13,830	13,925	27,755	386	342	
	Total of Agency districts ...	145,323	149,093	294,416	1,980	1,921	
	Total for the Province ...	3,366,824	3,707,873	7,073,697	127,106	119,902	24[illegible]

I.

icts of Orissa Province during the year 1939.

5			6			1
Ratio of births per 1,000 of population.			Mean ratio of births per 1,000 during previous five years.			
Male.	Female.	Total.	Male.	Female.	Total.	No.
16·95	16·17	33·12	17·95	16·89	34·84	1
16·77	15·62	32·39	16·31	15·24	31·55	2
17·61	16·37	33·98	18·81	17·91	36·72	3
19·58	18·50	38·08	...	...	...	4
25·62	23·67	49·29	...	...	...	5
21·20	20·04	41·24	...	...	...	6
21·09	19·93	41·02	...	...	...	7
6·17	5·92	12·09	...	...	...	8
12·11	12·32	24·43	...	...	...	9
6·73	6·52	13·25	...	...	...	
17·97	16·95	34·92	...	...	...	

ANNUAL FORM No. I-A.—*Births registered according to class in each to*

1	2			3		
Registering circle.	Christians.			Hindus.		
	Male.	Female.	Total.	Male.	Female.	Total.
CUTTACK.						
Cuttack town ...	5	5	10	522	481	
Kendrapara town ...	...	...	...	121	118	
Jajpur town ...	...	...	...	87	80	
Total of towns ...	5	5	10	730	629	
Total of rural ...	1	...	1	35,228	33,698	
Total of district ...	6	5	11	35,958	34,327	
BALASORE.						
Balasore town ...	1	6	7	108	112	
Total of rural ...	19	9	28	15,551	14,529	
Total of district ...	20	15	35	15,654	14,641	
PURI.						
Puri town ...	1	1	2	555	487	
Total of rural ...	17	16	33	17,308	16,127	
Total of district ...	18	17	35	17,863	16,614	
SAMBALPUR.						
Sambalpur town ...	...	...	...	206	186	
Total of rural ...	9	10	19	20,634	19,508	
Total of district ...	9	10	19	20,840	19,694	
ANGUL.						
Total of rural ...	...	2	2	3,596	3,328	
Total of district ..	...	2	2	3,596	3,328	
KHONDMALS.						
Total of rural ...	1	2	3	575	537	
Total of district ...	1	2	3	575	537	
GANJAM PLAINS.						
Berhampur town ...	12	14	26	778	664	
Parlakimedi town ...	1	1	2	359	344	
Total of towns ...	13	15	28	1,137	1,008	
Total of rural ...	25	31	56	25,836	24,457	
Total of district ...	38	46	84	26,973	25,465	
AGENCY DISTRICTS.						
Ganjam ...	51	39	90	1,564	1,492	
Koraput ...	20	16	36	301	313	
Total of Agency districts ...	71	55	126	1,865	1,805	
Total for the Province — Towns ...	20	27	47	2,731	2,422	
Total for the Province — Rural ...	143	125	268	120,598	113,984	
Total for the Province — Districts ...	163	152	315	123,324	116,406	

DIX I—*contd.*

and rural areas in the districts of Orissa Province during the year 1939.

4			5			6			7		
Muhammadans.			Buddhists.			Other classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
97	101	198	...	...	...	...	...	...	624	537	1,161
37	38	75	...	...	...	...	...	...	158	156	314
1	3	4	...	...	...	...	...	...	88	83	171
135	142	277	...	...	...	...	...	...	870	776	1,646
801	722	1,523	...	...	...	...	...	...	36,030	34,420	70,450
936	864	1,800	...	...	...	...	...	...	36,900	35,196	72,096
28	24	52	...	...	...	...	1	1	132	143	275
553	481	1,034	...	...	...	359	314	673	16,482	15,333	31,815
581	505	1,086	...	...	...	359	315	674	16,614	15,476	32,090
3	3	6	...	...	...	...	...	..	559	491	1,050
339	304	643	...	...	...	6	4	10	17,670	16,451	34,121
342	307	649	...	...	...	6	4	10	18,229	16,942	35,171
...	...	...	...	...	...	...	...	...	206	186	392
14	10	24	...	...	...	...	...	...	20,657	19,528	40,185
14	10	24	...	...	...	...	...	...	20,863	19,714	40,577
2	...	2	...	...	...	...	...	...	3,598	3,325	6,923
2	...	2	...	...	...	...	...	...	3,598	3,325	6,923
...	...	...	...	...	...	1,168	1,110	2,278	1,744	1,649	3,393
...	...	...	...	...	...	1,168	1,110	2,278	1,744	1,649	3,393
29	27	56	...	...	...	51	57	108	870	762	1,632
1	4	5	...	...	...	...	...	...	361	349	710
30	31	61	...	...	...	51	57	108	1,231	1,111	2,342
35	31	66	...	...	...	51	49	100	25,947	24,568	50,515
65	62	127	...	...	...	102	106	208	27,178	25,679	52,857
...	...	...	...	...	...	29	48	77	1,644	1,579	3,223
15	13	28	...	...	...	...	...	...	336	342	678
15	13	28	...	...	...	29	48	77	1,980	1,921	3,901
196	200	396	...	...	...	51	58	109	2,998	2,707	5,705
1,759	1,561	3,320	...	...	...	1,613	1,525	3,138	124,108	117,195	241,303
1,955	1,761	3,716	...	...	...	1,664	1,583	3,247	127,106	119,902	247,008

ANNUAL FORM NO. IB.—*Still births registered according to class in*

1		2			3	
Registering circle.		Chirstians.			Hindus.	
		Male.	Female.	Total.	Male.	Female.
CUTTACK.						
ttack town	...	1	...	1	4	4
endrapara town ...	...	...	...	...	6	2
jpur town	...	...	...	...	1	...
Total of towns	...	1	...	1	11	6
Total of rural	...	...	...	...	2,489	2,048
Total of district	...	1	...	1	2,500	2,054
BALASORE.						
alasore town	...	...	...	...	1	2
Total of tural	...	...	...	...	1,248	1,142
Total of district	...	...	...	...	1,249	1,144
PURI.						
uri town	...	...	...	...	31	25
Total of rural	...	1	...	1	1,512	1,245
Total of district	...	1	...	1	1,543	1,2[illegible]0
SAMBALPUR.						
ambalpur town	...	...	...	...	1	1
Total of rural	...	...	...	...	80	48
Total of district	...	...	...	...	81	49
ANGUL.						
Total of rural	...	...	...	...	44	38
Total of district	...	...	...	...	44	38
KHONDMALS.						
Total of rural	...	...	...	...	8	6
Total of district	...	...	...	...	8	6
GANJAM PLAINS.						
erhampur town ...	...	...	...	...	20	12
rlakimedi town ...	...	...	...	...	7	23
Total of towns	...	...	...	...	27	35
Total of rural	...	4	5	9	214	186
Total of district	...	4	5	9	241	221
AGENCY DISTRICTS.						
njam	...	1	1	2	15	9
raput	...	1	...	1	2	4
Total of Agency districts	...	2	1	3	17	13
al for the Province — Towns	...	1	...	1	71	69
al for the Province — Rural	...	7	6	13	5,612	4,726
al for the Province — Districts	...	8	6	14	5,683	4,795

X I—*contd.*

rural areas in the districts of Orissa Province during the year 1939.

4			5			6			7		
Muhammadans.			Buddhists.			Other classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
3	5	8	...	...	...	...	...	...	8	9	17
1	1	2	...	...	...	...	...	...	7	3	10
...	...	...	...	...	...	...	...	...	1	...	1
4	6	10	...	...	...	...	...	...	16	12	28
38	41	79	...	...	...	...	...	...	2,527	2,089	4,616
42	47	89	...	...	...	...	...	...	2,543	2,101	4 644
...	...	...	...	...	...	...	...	...	1	2	3
6	10	16	...	...	...	2	3	5	1,256	1,155	2,411
6	10	16	...	...	...	2	3	5	1,257	1,157	2,414
1	...	1	...	...	...	...	...	...	32	25	57
6	7	13	...	...	...	...	...	...	1,519	1,252	2,771
7	7	14	...	...	...	...	...	...	1,551	1,277	2,828
...	...	...	...	...	...	...	...	...	1	1	2
...	2	2	...	...	...	...	...	...	80	50	130
...	2	2	...	...	...	...	...	...	81	51	132
...	...	...	...	...	...	...	...	...	44	38	82
...	...	...	...	...	...	...	...	...	44	38	82
...	...	...	...	...	...	25	31	56	33	37	70
...	...	...	...	...	...	25	31	56	33	37	70
2	...	2	...	...	...	3	1	4	25	13	38
...	...	...	...	...	...	...	...	...	7	23	30
2	...	2	...	...	...	3	1	4	32	36	68
7	6	13	...	...	...	10	9	19	235	206	441
9	6	15	...	...	...	13	10	23	267	242	509
1	...	1	...	...	...	3	4	7	20	14	34
...	...	...	...	...	...	1	1	2	4	5	9
1	...	1	...	...	...	4	5	9	24	19	43
7	6	13	...	...	...	3	1	4	82	76	158
58	66	124	...	...	...	41	48	89	5,718	4,846	10,564
65	72	137	...	...	...	44	49	93	5,800	4,922	10,722

ANNUAL FORM No. II.—*Statement of deaths register[illegible]*

1	2	3	4	5		
				Number of deaths registered.		
No.	Districts.	Area in square miles.	Average population per square mile.	Male.	Female.	Total.
1	Cuttack	3,654	595	34,574	35,881	70,45[illegible]
2	Balasore	2,055	482	13,860	14,277	28,1[illegible]
3	Puri	2,492	415	15,528	15,756	31,2[illegible]
4	Sambalpur	5,894	198	14,691	13,385	28,0[illegible]
5	Angul	881	159	2,101	1,993	4,0[illegible]
6	Khondmals	800	103	1,204	1,262	2,4[illegible]
7	Ganjam Plains	3,469	271	16,140	15,869	32,0[illegible]
	AGENCY DISTRICTS.					
8	Ganjam	2,630	101	1,271	1,104	[illegible]
9	Koraput	117	287	247	224	[illegible]
	Total of Agency districts ...	2,747	238	1,518	1,328	[illegible]
	Total for the Province ...	21,492	329	99,611	99,701	199,3[illegible]

IX DI—*contd.*

in the districts of Orissa Province during the year 1939.

6												7		
Death rate per 1,000 of population from—												Mean ratio of deaths per 1,000 during previous five years.		
								All causes.						
Cholera.	Smallpox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	Male.	Female.	Total.	Male.	Female.	Total.
4·08	1·22	...	13·51	4·19	0·60	0·45	8·32	33·68	31·14	32·37	32·83	30·52	31·61
0·99	0·29	..	17·82	0·60	0·09	0·49	8·12	28·81	27·99	28·40	33·85	33·55	33·45
1·09	0·13	...	12·68	3·78	1·03	0·45	11·11	31·03	29·45	30·22	30·47	29·28	29·86
0·03	0·05	...	14·84	1·59	1·09	0·28	8·42	28·14	24·74	26·30	...	...	...
0·04	0·08	...	23·52	0·44	0·12	0·63	4·37	30·58	27·77	29·15	...	...	...
0·03	0·01	...	26·13	0·13	0·06	0·56	3·05	29·93	30·01	29·97	...	...	...
0·07	0·11	...	13·88	1·47	0·73	0·23	8·35	27·78	22·48	24·84	...	...	...
0·06	0·02	...	6·87	0·29	0·26	0·15	1·26	9·67	8·17	8·91	...	...	...
...	...	...	8·50	1·12	1·12	0·76	5·47	17·86	16·09	16·97	...	...	...
0·05	0·02	...	7·02	0·37	0·34	0·21	1·66	10·45	8·91	9·67	...	...	...
1·58	0·47	...	14·33	2·46	0·66	0·88	8·30	29·59	26·89	28·18	...	...	...

ANNUAL FORM NO. III.—*Deaths registered in the districts of*

1	2		3	4	5	6	7	8
No.	Districts.		Population according to census 1931.	January.	February.	March.	April.	May.
1	Cuttack district ...	Urban ...	88,556	164	105	145	124	86
		Rural ...	2,088,151	6,068	5,530	5,647	5,299	4,680
		Total ...	2,176,707	6,227	5,635	5,792	5,423	4,766
2	Balasore district ...	Urban ...	17,843	33	30	28	28	26
		Rural ...	972,757	3,543	2,884	2,483	2,276	2,047
		Total ...	990,600	3,576	2,834	2,511	2,304	2,073
3	Puri district ...	Urban ...	37,568	79	90	119	86	95
		Rural ...	997,586	3,117	2,765	2,679	2,795	2,219
		Total ...	1,035,154	3,196	2,855	2,798	2,881	2,314
4	Sambalpur district ...	Urban ...	15,017	26	23	16	29	35
		Rural ...	1,050,593	1,957	1,645	2,155	2,098	2,263
		Total ...	1,065,610	1,983	1,668	2,171	2,127	2,298
5	Angul district ...	Rural ...	140,458	305	289	352	825	378
		Total ...	140,458	305	289	352	825	378
6	Khondmals district ...	Rural ...	82,278	138	169	192	249	305
		Total ...	82,278	138	169	192	249	305
7	Ganjam district (Plains) ...	Urban ...	57,822	108	105	95	110	93
		Rural ...	1,230,652	2,357	1,966	2,454	2,541	2,627
		Total ...	1,288,474	2,465	2,071	2,549	2,651	2,720
	AGENCY DISTRICTS.							
8	Ganjam	..	266,631	191	193	232	210	210
9	Koraput	...	27,755	41	38	36	34	37
	Total of Agency districts ...	...	294,416	232	231	268	244	247
	Total for the Province	Urban ...	216,806	410	353	403	377	335
		Rural ...	6,861,891	17,712	14,929	16,280	15,827	14,761
		Total ...	7,078,697	18,122	15,282	16,683	16,204	15,096
	Ratio per 1,000 of population.	Urban ...	...	1·89	1·63	1·86	1·74	1·54
		Rural ...	...	2·58	2·18	2·37	2·31	2·15
		Total ...	...	2·56	2·16	2·35	2·29	2·13

DIX I—*contd.*

Orissa Province during each month of the year 1939.

9	10	11	12	13	14	15	16	1
June.	July.	August.	September.	October.	November.	December.	Total deaths registered during the year.	No.
67	117	149	100	127	129	168	1,481	
4,010	4,831	6,442	7,026	6,188	6,335	6,923	68,974	1
4,077	4,948	6,591	7,126	6,315	6,464	7,091	70,455	
29	36	29	22	27	39	39	366	
1,448	1,872	2,417	1,984	2,217	2,253	2,902	27,771	2
1,472	1,908	2,446	2,006	2,244	2,292	2,941	28,137	
123	120	117	100	85	113	120	1,247	
2,227	2,049	2,564	2,361	2,066	2,388	2,802	30,032	3
2,350	2,169	2,681	2,461	2,151	2,501	2,922	31,279	
26	26	45	19	23	25	41	334	
2,090	2,126	2,977	2,907	2,299	2,476	2,699	27,692	4
2,116	2,152	3,022	2,926	2,322	2,501	2,740	28,026	
335	301	471	405	305	315	318	4,094	5
335	301	471	405	305	315	318	4,094	
202	156	251	245	196	178	185	2,466	6
202	156	251	245	196	178	185	2,466	
108	164	163	124	118	115	115	1,418	
2,433	3,019	3,465	2,622	2,149	2,217	2,741	30,591	7
2,541	3,183	3,628	2,746	2,267	2,332	2,856	32,009	
157	183	217	199	207	212	164	2,375	8
29	43	58	50	28	29	43	471	9
186	226	270	249	245	241	207	2,846	
353	463	503	365	380	421	483	4,846	
12,926	14,580	18,857	17,799	15,665	16,403	18,777	194,466	
13,279	15,043	19,360	18,164	16,045	16,824	19,260	199,312	
1·63	2·14	2·32	1·68	1·75	1·94	2·28	22·35	
1·88	2·13	2·75	2·60	2·28	2·39	2·74	26·86	
1·88	2·13	2·74	2·57	2·27	2·38	2·72	28·18	

ANNUAL FORM No. IV.—*Deaths registered according to age in the* [illegible]

No.	District.		Not exceeding one month. Male. Under one week.	Over one week.	Total.	Female. Under one week.	Over one week.	Total.	Total of columns 3 and 6.
1	2		1	2	3	4	5	6	7
1	Cuttack district	Urban	56	32	88	43	17	60	[illegible]
		Rural	1,926	1,363	3,289	1,629	1,132	2,761	[illegible]
		Total	1,982	1,395	3,377	1,672	1,149	2,821	[illegible]
2	Balasore District	Urban	13	2	15	6	13	19	[illegible]
		Rural	1,094	697	1,791	855	595	1,450	[illegible]
		Total	1,107	699	1,806	861	608	1,469	[illegible]
3	Puri district	Urban	37	39	76	38	19	57	[illegible]
		Rural	1,074	909	1,983	933	737	1,670	[illegible]
		Total	1,111	948	2,059	971	756	1,727	[illegible]
4	Sambalpur district	Urban	6	9	15	4	11	15	[illegible]
		Rural	1,370	1,189	2,559	1,122	981	2,103	[illegible]
		Total	1,376	1,198	2,574	1,126	992	2,118	[illegible]
5	Angul district	Rural	163	128	289	133	124	257	[illegible]
		Total	163	128	289	133	124	257	[illegible]
6	Khondmals district	Rural	90	66	156	58	59	117	[illegible]
		Total	90	66	156	58	59	117	[illegible]
7	Ganjam district (Plains)	Urban	44	38	82	55	22	77	[illegible]
		Rural	1,401	1,184	2,585	1,068	955	2 023	[illegible]
		Total	1,445	1,222	2,667	1,123	977	2,100	[illegible]
	AGENCY DISTRICTS.								
8	Ganjam	...	57	42	99	34	39	73	[illegible]
9	Koraput	...	10	4	14	6	7	13	[illegible]
	Total of Agency districts	...	67	46	113	40	46	86	[illegible]
	Total for the Province	Urban	156	120	276	146	82	228	[illegible]
		Rural	7,188	5,577	12,765	5,838	4,629	10,467	[illegible]
		Total	7,344	5,697	13,041	5,984	4,711	10,695	[illegible]

DIX I—*contd.*

districts of Orissa Province during the year 1939.

8									
one year.									
Over one month and not exceeding six months.			Over six months and not exceeding twelve months.			Total male columns 3, 8 and 11.	Total female columns 6, 9 and 12.	Total.	No.
Male.	Female.	Total.	Male.	Female.	Total.				
8	9	10	11	12	13	14	15	16	
60	40	100	27	23	50	175	123	298	1
3,159	2,541	5,700	1,219	1 117	2,336	7,667	6,419	14,086	
3,219	2,581	5,800	1 246	1 140	2,386	7,842	6,542	14,384	
4	9	13	4	4	8	23	32	55	2
1,200	1,114	2,314	365	356	721	3,366	2,920	6,286	
1,204	1,123	2,327	379	360	739	3,389	2,952	6,341	
31	43	74	13	23	36	120	123	243	3
1,221	1,103	2,324	635	591	1,226	3,839	3,364	7,203	
1,252	1,146	2 398	648	614	1,262	3,959	3,487	7,446	
7	14	21	3	11	14	25	40	65	4
952	825	1,777	485	443	928	3,996	3,371	7,367	
959	839	1,798	488	454	942	4,021	3,411	7 ,432	
236	196	432	126	90	216	651	543	1,194	5
236	196	432	126	90	216	651	543	1,194	
155	145	300	63	89	152	374	351	725	6
155	145	300	63	89	152	374	351	725	
57	38	95	39	51	90	178	166	344	7
1,573	1,306	2,879	1,432	1,353	2,785	5.590	4,682	10,272	
1,630	1,344	2,974	1,471	1,404	2,875	5,768	4,848	10,616	
97	119	216	74	90	164	270	282	552	8
15	14	29	8	9	17	37	36	73	
112	133	245	82	99	181	307	318	625	
159	144	303	86	112	198	521	484	1,005	
8,603	7,368	15,971	4,417	4,138	8,555	25,790	21,968	47,758	
8,767	7,507	16,274	4,503	4,250	8,753	26,311	22,452	48,763	

ANNUAL FORM No. IV.—*Deaths registered according to age in ...*

1	2		3		4		5		6
No.	District.		1 year and under 5 years.		5 years and under 10 years.		10 years and under 15 years.		15 years and under 20 years.
			Male.	Female.	Male.	Female.	Male.	Female.	Male.
			17	18	19	20	21	22	23
1	Cuttack district ...	Urban ...	105	95	25	32	15	17	32
		Rural ...	5,229	5,360	2,134	1,976	1,033	862	1,149
		Total ...	5,334	5,455	2,159	2,008	1,048	879	1,181
2	Balasore district ...	Urban ...	17	15	4	3	7	6	6
		Rural ...	1,315	1,448	550	579	345	308	482
		Total ...	1,332	1,463	554	582	352	309	488
3	Puri district ...	Urban ...	45	37	16	21	11	10	19
		Rural ...	2,212	2,441	716	693	338	265	372
		Total ...	2,257	2,478	732	714	349	275	391
4	Sambalpur district ...	Urban ...	26	18	13	14	2	9	6
		Rural ...	2,580	2,401	723	660	375	325	287
		Total ...	2,606	2,419	736	674	377	334	393
5	Angul district ...	Rural ...	440	445	145	122	68	64	56
		Total ...	440	445	145	122	68	64	56
6	Khondmals district ...	Rural ...	230	254	58	57	28	35	45
		Total ...	230	254	58	57	28	35	45
7	Ganjam district (Plains)	Urban ...	101	75	16	31	18	23	16
		Rural ...	2,336	2,271	672	641	352	346	315
		Total ...	2,437	2,346	688	672	370	369	381
	AGENCY DISTRICTS.								
8	Ganjam	...	174	160	73	60	54	29	39
9	Koraput	...	26	21	9	7	6	7	7
	Total of Agency districts ...	...	200	181	82	67	60	36	46
	Total for the Province...	Urban ...	294	240	74	101	58	65	79
		Rural ...	14,542	14,801	5,080	4,795	2,593	2,236	2,803
		Total ...	14,836	15,041	5,154	4,896	2,652	2,301	2,851

DIX I—*contd.*

...istricts of Orissa Province during the year 1939.

7		8		9		10		11		1
20 years and under 30 years.		30 years and under 40 years.		40 years and under 50 years.		50 years and under 60 years.		60 years and upwards.		No.
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
25	26	27	28	29	30	31	32	33	34	
74	86	58	68	68	53	84	82	115	130	
3,162	4,518	3,063	3,375	2,560	2,468	3,352	3,538	4.474	5,187	1
3,236	4,604	3,121	3,443	2,628	2,521	3,436	3,620	4,589	5,317	
19	23	£6	29	24	17	36	8	27	19	
1,392	1,881	1,552	1,617	1,533	1,361	1,4 3	1,549	1,683	1,832	2
1,411	1,904	1,588	1,646	1,557	1,378	1,5.9	1,557	1,710	1,851	
60	67	78	58	74	50	89	53	130	174	
1,079	1,668	1,223	1,215	1,272	1 099	1,621	1,526	2,209	2,360	3
1,139	1,735	1,301	1,268	1,346	1,149	1,710	1,579	2,289	2,534	
23	13	12	18	16	19	23	9	16	20	
1,013	1,191	1,185	978	1,044	740	1,355	1,204	1,871	1,855	4
1,036	1,204	1,197	996	1,060	759	1,378	1,213	1,887	1,875	
94	131	152	133	130	103	164	145	2ʼ1	257	5
94	131	152	133	130	103	164	145	201	257	
57	102	84	123	106	88	123	113	99	101	6
57	103	84	123	106	88	123	113	99	101	
58	55	73	42	59	44	64	45	148	184	
829	1,106	1,038	905	967	773	1,246	1,275	2,069	2,762	7
887	1,161	1,106	947	1,026	817	1,310	1,320	2,217	2,946	
93	90	164	107	125	93	137	114	132	134	8
23	33	22	16	26	15	20	20	61	60	9
116	123	186	123	161	108	167	134	193	194	
284	244	257	210	241	188	296	197	486	527	
7,742	10,720	8,478	8,469	7,773	6,740	9,521	9,484	12,799	14,548	
7,976	10 964	8,735	8,679	8,014	6,923	9,817	9,681	13,235	15,675	

ANNUAL FORM NO. IV-A.—*Deaths under one year registered according to class in each tow*

1	2			3		
Registering circle.	Christians.			Hindus.		
	Male.	Female.	Total.	Male.	Female.	Total.
CUTTACK.						
Cuttack town	...	...	...	87	62	[illegible]
Kendrapara town	...	...	...	30	33	[illegible]
Jajpur town	...	...	...	14	10	[illegible]
Total of towns ...	...	...	...	131	105	[illegible]
Total of rural ...	...	...	...	7,56[illegible]	6,302	[illegible]
Total of district ...	...	...	...	7,694	6,407	[illegible]
BALASORE.						
Balasore town	...	...	...	21	28	[illegible]
Total of rural ...	1	...	1	3,314	2,969	[illegible]
Total of district ...	1	...	1	3,335	2,997	[illegible]
PURI.						
Puri town	...	...	...	120	128	248
Total of rural ...	1	...	1	3,778	3,318	7,096
Total of district ...	1	...	1	3,898	3,441	[illegible]
SAMBALPUR.						
Sambalpur town	...	...	...	25	39	64
Total of rural ...	7	3	10	3,969	3,355	7,324
Total of district ...	7	3	10	3,994	3,334	7,388
ANGUL.						
Total of rural ...	...	...	...	651	548	1,194
Total of district ...	...	...	...	651	543	1,194

and rural areas in the districts of Orissa Province during the year 1939—contd.

4			5			6			7		
Muhammadans.			Buddhists.			Other classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total	Male.	Female.	Total.
28	9	37	...	...	...	...	...	...	115	71	186
16	9	25	...	...	...	...	...	...	46	42	88
...	...	...	...	...	...	...	...	...	14	10	24
44	18	62	...	...	...	...	...	...	175	123	298
104	117	221	...	...	...	...	...	...	7,667	6,419	14,086
148	135	283	...	...	...	...	...	...	7,842	6,542	14,384
2	4	6	...	...	...	...	...	...	23	32	55
30	34	64	...	...	...	21	17	38	3,366	2,920	6,286
32	38	70	...	...	...	21	17	38	3,389	2,952	6,341
...	...	...	...	...	...	...	...	...	120	123	243
60	46	106	...	...	...	...	...	...	3,839	3,364	7,203
60	46	106	...	...	...	...	...	...	3,959	3,487	7,446
...	1	1	...	...	...	...	...	...	25	40	65
20	13	33	...	...	...	...	...	...	3,996	3,371	7,367
20	14	34	...	...	...	...	...	...	4,021	3,411	7,432
...	...	...	...	...	...	...	...	...	651	543	1,194
...	...	...	...	...	...	...	...	...	651	543	1,194

ANNUAL FORM No. IV-A.—*Deaths under one year registered according to class in each town*

1	2			3		
Registering circle.	Christians.			Hindus.		
	Male.	Female.	Total.	Male.	Female.	Total.
KHONDMALS.						
Total of rural ...	1	...	1	131	106	[illegible]
Total of district ...	1	...	1	131	106	[illegible]
GANJAM PLAINS.						
Berhampur town	1	...	1	123	115	[illegible]
Parlakimedi town	...	...	...	48	49	[illegible]
Total of towns ...	1	...	1	171	164	[illegible]
Total of rural ...	9	8	17	5,558	4,649	[illegible]
Total of district ...	10	8	18	5,729	4,813	[illegible]
AGENCY DISTRICTS.						
Ganjam	3	2	5	262	275	[illegible]
Koraput	2	1	3	32	38	[illegible]
Total of Agency districts ...	5	3	8	294	308	[illegible]
PROVINCE.						
Total for the Province ... Towns ...	1	...	1	468	459	[illegible]
Total for the Province ... Rural ...	24	14	38	25,258	21,450	[illegible]
Total for the Province ... District ...	25	14	39	25,726	21,909	[illegible]

and rural areas in the districts of Orissa Province during the year 1939—concld.

4			5			6			7		
Muhammadans.			Buddhists.			Other classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
...	...	...	...	...	...	242	245	487	374	351	725
...	...	...	...	...	...	242	245	487	374	351	725
6	2	8	...	...	...	...	...	...	130	117	247
...	...	...	...	--	...	...	...	...	48	49	97
6	2	8	...	...	...	...	...	...	178	166	344
13	18	31	..	...	...	10	7	17	5,590	4,682	10,272
19	20	39	...	...	...	10	7	17	5,768	4,848	10,616
...	1	1	...	...	...	5	4	9	270	282	552
3	2	5	...	...	...	...	...	...	37	36	73
3	3	6	...	...	...	5	4	9	307	318	625
52	25	77	...	...	...	...	...	...	521	484	1,005
230	231	461	...	...	...	278	273	551	25,790	21,968	47,758
282	256	538	...	...	...	278	273	551	26,311	22,452	48,763

ANNUAL FORM NO. V.—*Deaths registered according to clas*

1	2	3											
		Number of death											
No.	District.	Christians.			Hindus.			Muhammadans.			Buddhists.		
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1	Cuttack	3	7	10	33,687	34,899	68,536	934	975	1,909	...	...	...
2	Balasore	11	6	17	13,207	13,654	26,861	432	411	843	...	...	...
3	Puri ... —	14	5	19	15,246	15.476	30,722	263	275	538	...	...	...
4	Sambalpur	16	19	35	14,632	13,281	27,913	42	33	75	...	...	...
5	Angul	...	...	...	2,099	1,991	4,090	2	2	4	...	...	...
6	Khondmals	3	...	3	371	395	766	...	2	2	...	..	...
7	Ganjam Plains ...	34	30	64	16,005	15,747	31,752	60	71	131	...	...	...
	AGENCY DISTRICTS.												
8	Ganjam	19	15	34	1,225	1,062	2.287	...	2	2	...	...	...
9	Koraput	9	5	14	227	213	440	11	6	17	...	...	...
	Total of Agency districts ...	28	20	48	1,452	1,275	2,727	11	8	19	...	...	...
	Total for the province ...	109	87	196	96,649	96,718	193,367	1,744	1,777	3,521	...	...	...

in the district of Orissa Province during the year 1939.

registered.			4															
			Ratio of deaths per 1,000 of population.															
Other classes			Christians.			Hindus.			Muhammadans.			Budhists.			Other classes.			No.
Male.	Female.	Total	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male	Female.	Total.	
...	...	...	2·45	4·24	3·48	33·76	31·43	32·53	31·17	26·98	28·88	...	...	...	...	...	...	1
210	206	416	16·06	8·70	12·36	28·84	28·05	28·43	27·58	25·57	26·56	...	...	...	33·72	31·81	32·48	2
...	...	...	18·23	6·51	12·37	31·21	29·62	30·39	24·19	23·62	23·89	...	...	...	...	...	...	3
1	2	3	8·38	9·63	9·01	28·58	24·90	26·70	16·59	14·16	15·43	...	...	...	0·18	0·34	0·26	4
...	...	...	...	...	...	30·72	27·87	29·26	12·50	19·05	15·09	...	...	...	...	...	...	5
830	865	1,695	57·69	...	34·88	30·89	33·22	32·05	...	166·67	71·43	...	...	...	29·48	28·73	29·09	6
41	21	62	39·17	34·21	36·68	27·94	22·47	24·93	29·10	37·61	33·16	...	...	...	7·82	5·48	6·83	7
27	25	52	10·65	9·07	9·89	18·84	15·98	17·40	...	54·05	21·74	...	...	...	0·42	0·37	0·39	8
...	...	...	17·72	9·51	13·54	17·63	16·46	17·05	83·33	42·86	62·50	...	...	...	...	...	...	9
27	25	52	12·22	9·18	10·74	18·64	16·06	17·34	58·82	45·20	52·20	...	...	...	0·42	0·37	0·39	
1,109	1,119	2,228	13·80	10·49	12·11	30·24	27·50	28·85	28·38	25·99	27·12	...	...	...	10·00	9·80	9·90	

APPENDIX I—*contd.*

ANNUAL FORM NO. V-A.—*Death rates according to class, urban and rural areas separately in each district of Orissa Province during the year 1939.*

Number.	District.		Christians.	Hindus.	Muhammadans.	Buddhists.	Other classes.	Total.
1	2		3	4	5	6	7	8
1	Cuttack ...	Urban ...	4·18	16·35	21·20	...	...	16·72
		Rural ...	...	33·11	30·79	...	...	33·03
2	Balasore ...	Urban ...	8·21	20·94	17·43	...	105·06	20·51
		Rural ...	14·64	28·54	27·74	...	31·71	28·55
3	Puri ...	Urban ...	5·00	33·59	14·74	...	...	33·19
		Rural ...	13·47	30·26	24·09	...	...	30·10
4	Sambalpur ...	Urban ...	4·13	23·86	7·84	...	...	22·24
		Rural ...	9·34	26·74	17·77	...	0·26	26·26
5	Angul ...	Urban ...	...	...	...	...	...	...
		Rural ...	...	29·26	15·09	...	...	29·15
6	Khondmals ...	Urban ...	...	...	...	...	...	...
		Rural ...	34·88	32·05	71·43	...	29·09	29·97
7	Ganjam Plains ...	Urban ...	12·57	24·76	22·81	...	...	24·52
		Rural ...	58·45	24·94	40·05	...	6·89	24·85
	AGENCY DISTRICTS.							
8	Ganjam ...	Urban ...	...	...	...	...	...	...
		Rural ...	9·89	17·40	21·74	...	0·39	8·91
9	Koraput ...	Urban ...	...	...	...	...	...	...
		Rural ...	13·54	17·05	62·50	...	...	16·97
	Total of Agency districts.	Urban ...	...	...	...	...	...	...
		Rural ...	10·74	17·84	52·20	...	0·39	9·67
	Total for the province.	Urban ...	6·15	22·98	19·72	...	45·75	22·85
		Rural ...	14·10	29·02	28·47	...	9·85	28·85

APPENDIX I.

Annual Form No. VI.

ANNUAL FORM No. VI.—*Deaths registered from different causes in the*

1	2	3			4			5			6	7	8	9	10
		Population for which returns were received.			Births.			Birth rate.							
No.	District and towns.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Cholera.	Smallpox.	Plague.	Fever.	Dysentery and Diarrhoea.
	DISTRICTS EXCLUDING TOWNS.														
1	Cuttack ...	980,266	1,107,885	2,088,151	36,030	34,420	70,450	17·25	16·48	33·73	8,818	2,481	...	28,904	8,988
2	Balasore ...	470,385	502,372	972,757	16,482	15,333	31,815	16·94	15·76	3[illegible]·72	965	282	...	17,494	579
3	Puri ...	479,511	518,075	997,586	17,670	16,451	34,121	17·71	16·49	34·20	1,101	134	...	12,627	3,739
4	Sambalpur ...	514,424	536,169	1,050,593	20,657	19,528	40,185	19·66	18·59	38·25	34	43	...	15,660	1,628
5	Angul ...	6[illegible],694	71,764	140,458	3,598	3,325	6,923	25·62	23·67	49·29	5	4	...	3,304	61
6	Khondmals ...	40,2[illegible]1	42,047	82,278	1,744	1,649	3,393	21·20	20·04	41·24	2	1	...	2,150	11
7	Ganjam plains ...	552,976	677,676	1,230,652	25,947	24,568	50,515	21·08	19·96	41·04	97	127	...	17,542	1,618
	AGENCY DISTRICTS.														
8	Ganjam ...	131,493	135,168	266,661	1,644	1,579	3,223	6·17	5·92	12·09	15	7	...	1,831	77
9	Koraput ...	13,830	13,925	27,755	336	342	678	12·11	12·32	24·43	...	...	...	236	31
	Total of Agency districts.	145,323	149,093	294,416	1,980	1,921	3,901	6·73	6·52	13·25	15	7	...	2,067	108
	Total for the Province.	3,251,810	3,605,081	6,856,891	124,108	117,195	241,303	18·10	17·09	35·19	11,037	3,079	...	99,748	15,746
	TOWNS.														
	CUTTACK DISTRICT.														
1	Cuttack ...	36,357	28,906	65,263	624	537	1,161	9·51	8·28	17·79	15	128	...	214	81
2	Kendrapara ...	6,237	6,383	12,620	158	156	314	12·52	12·36	24·88	35	28	...	176	39
3	Jajpur ...	5,274	5,399	10,673	88	83	171	8·24	7·78	16·02	18	8	...	105	16
	BALASORE DISTRICT														
4	Balasore ...	10,133	7,710	17,843	132	143	275	7·40	8·0.	15·41	11	9	...	154	18
	PURI DISTRICT.														
5	Puri ...	20,703	16,865	37,568	559	491	1,030	14·88	13·07	27·95	24	6	...	445	157
	SAMBALPUR DISTRICT.														
6	Sambalpur ...	7,716	7,[illegible]01	15,017	206	186	392	13·72	12·58	26·10	1	11	...	125	67
	GANJAM DISTRICT														
7	Berhampur ...	18,49[illegible]	19,260	37,750	870	762	1,632	23·04	20·19	43·23	...	13	...	151	172
8	Parlakimedi ...	9,604	10,468	20,072	361	349	710	17·99	17·38	35·37	...	...	...	96	71
	Total for all towns.	114,514	102,292	216,806	2,998	2,707	5,705	13·83	12·48	26·31	104	203	...	1,396	657
	Total for the whole Province.	3,366,324	3,7[illegible]7,373	7,072,697	127,106	119,[illegible]02	247,008	17·97	[illegible]6·95	34·92	1,141	3,282	...	101,344	17,403

[APPEN]DIX I—*contd.*

[... d]istrict and towns of *Orissa Province during the year 1939.*

12 Injuries. Suicide. Male.	Female.	Wounds or accidents.	Snake bite or killed by wild animals.	Rabies.	Total.	13 All other causes.	14 Total deaths from all causes. Male.	Female.	Total.	15 Ratio of deaths per 1,000 of population. Cholera.	Smallpox.	Plague.	Fever.	Dysentery and Diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	From all causes. Male.	Female.	Total.	Mean of previous five years.	No.
[illegible]	308	372	59	25	969	17,585	33,823	35,151	68,974	4·22	1·19	...	13·84	4·30	0·59	0·46	8·43	34·50	31·73	35·03	32·36	1
[illegible]	97	201	117	15	474	7,889	13,661	14,110	27,771	0·99	0·29	...	17·98	0·50	0·09	0·49	8·11	29·04	28·09	28·55	33·66	2
[illegible]	80	197	85	20	442	10,975	14,881	15,151	30,032	1·10	0·13	...	12·63	3·74	1·03	0·44	11·00	31·03	29·24	30·10	29·70	3
[illegible]	28	147	76	13	285	8,895	14,529	13,163	27,692	0·03	0·04	...	14·91	1·15	1·09	0·27	8·47	28·21	24·55	26·36	...	4
[illegible]	11	48	23	3	89	614	2,101	1,993	4,094	0·04	0·03	...	23·52	0·44	0·12	0·63	4·37	30·58	27·77	29·15	...	5
[illegible]	4	23	12	...	46	251	1,204	1,262	2,466	0·03	0·01	...	26·13	0·13	0·06	0·76	3·05	29·93	30·01	29·97	...	6
[illegible]	29	123	70	45	281	10,208	15,409	15,182	30,591	0·08	0·10	...	14·25	1·24	0·56	0·23	8·30	27·87	22·40	24·86	...	7
[illegible]	1	11	20	5	41	335	1,271	1,101	2,375	0·06	0·02	...	6·87	0·29	0·26	0·15	1·26	9·67	8·17	8·41	...	8
[illegible]	1	11	9	1	21	152	247	224	471	...	...	...	8·50	1·12	1·12	0·76	5·47	17·86	16·09	16·97	...	9
[illegible]	2	24	26	6	62	487	1,518	1,328	2,846	0·05	0·02	...	7·02	0·37	0·34	0·21	1·65	10·45	8·91	9·67	...	...
[illegible]	559	1,135	568	127	2,618	56,904	97,126	97,340	194,466	1·61	0·45	...	14·55	2·44	0·63	0·38	8·30	25·87	27·00	28·36	...	...
[illegible]	...	1	...	...	2	376	461	419	880	0·23	1·96	...	3·38	1·29	0·93	0·03	5·76	12·68	14·50	13·48	10·22	1
[illegible]	2	1	1	1	5	129	209	224	433	2·77	2·22	...	13·95	3·09	1·66	0·40	10·22	33·51	35·09	34·31	30·82	2
[illegible]	...	...	...	...	2	18	81	87	168	1·69	0·75	...	9·83	1·50	0·09	0·19	1·69	15·36	16·11	15·74	16·77	3
[illegible]	1	6	1	...	9	159	179	167	366	0·62	0·50	...	8·63	1·01	0·34	0·50	8·91	19·64	21·56	20·51	22·03	4
[illegible]	3	13	...	...	20	525	642	605	1,247	0·64	0·16	...	11·85	4·93	1·06	0·53	13·97	31·01	35·87	33·19	33·83	5
[illegible]	1	...	1	8	10	73	162	172	334	0·07	0·71	...	10·32	4·36	1·13	0·67	4·86	21·00	21·56	22·24	...	6
[illegible]	1	4	2	...	9	339	498	478	976	...	0·34	...	6·65	4·58	5·38	0·24	8·98	26·93	24·82	25·85	...	7
[illegible]	1	1	1	...	3	215	233	209	442	...	...	...	4·78	3·69	2·69	0·15	10·41	21·26	19·97	22·02	...	8
[illegible]	9	6	6	9	60	1,834	2,485	2,361	4,846	0·48	0·93	...	7·36	3·03	1·81	0·23	8·46	21·70	23·08	22·35	...	...
[illegible]	568	1,161	574	136	2,708	58,738	99,611	99,701	199,312	1·58	0·47	...	14·23	2·46	0·66	0·38	8·30	25·59	25·89	23·18	...	...

ANNUAL FORM No. VI (*a*).—*Deaths registered from different kinds*

Municipalities.	Malaria.	Enteric fever.	Measles.	Relapsing fever (spirochoetal).	Kala-azar.	Influenza.	Cerebro-spinal fever.	Typhus fever.	Black-water fever.	Other fevers.	Dysentery.	Diarrhoea.
1	2	3	4	5	6	7	8	9	10	11	12	13
CUTTACK DISTRICT.												
Cuttack	14	10	...	...	...	5	...	...	...	185	86	49
Kendrapara... ...	176	...	...	...	...	...	...	...	...	...	86	1
Jajpur	105	...	...	...	...	...	...	...	...	...	9	7
BALASORE DISTRICT.												
Balasore	139	...	...	...	...	...	...	...	...	15	10	8
PURI DISTRICT.												
Puri	...	...	...	...	...	...	...	...	...	445	187	...
SAMBALPUR DISTRICT.												
Sambalpur	83	...	...	...	...	...	...	...	...	72	51	16
GANJAM DISTRICT.												
Berhampur	58	18	...	...	...	31	...	...	...	144	67	105
Parlakimedi... ...	17	13	...	...	1	...	...	...	...	65	82	43

DIX I—*contd.*

of fevers, dysentry, diarrhoea, respiratory diseases and other causes.

Pneumonia.	Pulmonary tuberculosis.	Whooping cough.	Other respiratory diseases.	Beri-beri.	Acute poliomyelitis.	Diphtheria.	Chicken pox.	Mumps.	Tuberculosis of joints.	Other tubercular diseases.	Leprosy.	Cancer.	Deaths from child-birth.	Deaths under one year.	Infantile mortality rate per 1,000 births.
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
6	...	...	55	...	...	4	...	...	...	14	8	7	12	186	160·21
8	...	...	18	...	...	...	...	...	...	...	...	...	5	88	280·25
...	...	2	1	...	...	...	...	...	...	...	...	...	1	24	140·35
...	...	...	6	...	...	...	1	...	...	...	...	...	2	55	200·00
...	...	...	40	...	...	...	...	...	...	16	28	...	3	243	231·43
4	...	9	8	...	...	...	...	...	...	1	...	...	...	65	165·82
68	...	...	97	1	...	...	8	...	...	27	1	4	15	247	151·35
28	8	...	18	6	...	...	...	...	...	2	4	1	6	97	136·62

ANNUAL FORM No. VII—*Deaths registered from cholera in the*

1	2	3		4		5					
		Circles of registration.		Villages.							
No.	District.	Number in each district.	Number from which deaths from cholera were reported.	Number in each district.	Number from which deaths from cholera were reported.	January.	February.	March.	April.	May.	June.
1	Cuttack	13	13	5,506	1,520	2	15	6	152	97	128
2	Balasore	10	10	3,479	250	30	40	33	41	62	85
3	Puri	6	6	2,987	182	6	12	46	18	29	14
4	Sambalpur.	27	7	3,094	11	...	...	...	...	...	1
5	Angul	5	2	467	2	...	...	2	...	...	...
6	Khondmals.	4	1	1,141	2	...	...	...	...	...	...
7	Ganjam plains	9	7	2,642	16	2	42	7	2	4	87
	AGENCY DISTRICTS.										
8	Ganjam ...	4	3	144	6	3	2	1	...	4	...
9	Koraput ...	6	...	6	...	...	...	...	...	...	...
	Total of Agency districts...	10	3	150	6	3	2	1	...	4	...
	Total for the Province ...	84	49	19,466	1,989	43	111	95	213	:06	215

DIX I—*contd.*

istricts of Orissa Province during each month of the year 1939.

					6			7			8	1
					Total.			Ratio of deaths per 1,000 of population.				
August.	September.	October.	November.	December.	Male.	Female.	Total.	Male.	Female.	Total.	Mean ratio per 1,000 of previous five years.	No.
795	1,793	2,068	1,649	1,447	4,223	4,663	8,886	4·11	4·06	4·08	1·51	
122	2	11	66	398	500	476	976	1·04	0·93	0·99	1·71	
20	218	308	232	163	534	591	1,125	1·07	1·10	1·09	0·82	
12	14	...	2	...	14	21	35	0·03	0·04	0·03	...	
...	...	...	2	1	3	2	5	0·04	0·03	0·04	...	
...	1	1	...	...	...	2	2	...	0·05	0·03	...	
...	...	...	...	...	52	45	97	0·09	0·06	0·07	...	
2	1	...	...	1	6	9	15	0·05	0·07	0·06	...	
...	...	...	...	...	...	...	...	...	...	...	...	
2	1	...	...	1	6	9	15	0·04	0·06	0·05	...	
961	2,029	2,288	1,951	2,010	5,832	5,809	11,141	1·58	1·57	1·58	...	

ANNUAL FORM NO. VIII.—*Deaths registered from smallpox in the districts*

1	2	3		4							
		Circles of registration.		Villages.							
No.	Districts.	Number in each district.	Number from which deaths from smallpox were reported.	Number in each district.	Number from which deaths from smallpox were reported.	January.	February.	March.	April.	May.	June.
1	Cuttack ..	13	13	5,506	662	210	236	306	370	368	[illegible]
2	Balasore ..	10	10	3,479	135	42	21	43	41	52	[illegible]
3	Puri	6	6	2,987	92	4	10	20	22	17	[illegible]
4	Sambalpur ..	27	10	3,094	34	..	..	..	3	2	[illegible]
5	Angul	5	2	467	2	..	..	..	..	..	..
6	Khondmals ..	4	1	1,141	1	..	..	..	..	..	..
7	Ganjam Plains ..	9	8	2,642	63	14	7	12	31	18	[illegible]
	AGENCY DISTRICTS.										
8	Ganjam ..	4	2	144	3	1	1	3	..	..	..
9	Koraput ..	6	..	6	..	..	..	..	..	..	..
	Total of Agency districts.	10	2	150	3	1	1	3	..	..	..
	Total for the Province	84	52	19,466	992	271	275	384	467	457	[illegible]

[APPEND]IX I—*contd.*

[...] *Orissa Province during each month of the year 1939.*

July.	August.	September.	October.	November.	December.	6 Total. Male.	Female.	Total.	7 Number of deaths among children. Under one year.	One year and under 10 years.	8 Ratio of deaths per 1,000 of population. Male.	Female.	Total.	9 Mean ratio per 1,000 of previous five years.	1 No.
162	170	171	108	103	216	1,354	1,291	2,645	397	703	1·32	1·12	1·22	1·40	1
17	15	10	8	8	8	132	159	291	28	21	0·27	0·31	0 29	0·53	2
12	9	11	7	8	9	79	61	140	6	21	0·16	0·11	0·13	0·82	3
1	6	4	3	6	23	25	29	54	..	..	0·05	0·05	0 05	..	4
3	..	..	..	..	1	3	1	4	..	..	0·04	0·01	0·03	..	5
..	..	..	1	..	..	1	..	1	..	..	0·02	..	0·01	..	6
18	18	2	2	1	17	71	69	140	37	84	0·12	0·10	0·11	..	7
..	..	1	..	..	1	4	3	7	5	..	0 03	0·02	0·02	..	8
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	9
..	..	1	..	..	1	4	3	7	5	..	0·03	0·02	0·02	..	
306	218	199	129	121	275	1,669	1,613	3,282	473	779	0·53	0·43	0·47	..	

ANNUAL FORM No. IX.—*Deaths registered from fevers in the distri*

1	2	3		4								
		Circles of registration.		Villages.								
No.	Districts.	Number in each district.	Number from which deaths from fever were reported.	Number in each district.	Number from which deaths from fever were reported.	January.	February.	March.	April.	May.	June.	July.
1	Cuttack	13	13	5,506	5,039	3,110	2,992	2,945	2,€88	2,116	1,872	[illegible]
2	Balasore	10	10	3,479	3,262	2,434	1,C09	1,672	1,536	1,193	578	[illegible]
3	Puri	6	6	2,987	2,680	1,481	1,294	1,218	1,362	881	857	[illegible]
4	Sambalpur	27	27	3,094	2,204	1,014	886	1,184	1,126	1,330	1,160	[illegible]
5	Angul	5	5	467	407	249	232	301	281	309	252	[illegible]
6	Khondmals	4	4	1,141	1,025	124	151	164	208	267	174	[illegible]
7	Ganjam Plains	9	9	2,642	2,313	1,416	1,256	1,513	1,561	1,464	1,339	[illegible]
	AGENCY DISTRICTS.											
8	Ganjam	4	4	144	137	151	137	180	163	172	133	[illegible]
9	Koraput	6	6	6	6	13	13	15	19	15	12	[illegible]
	Total of Agency districts ...	10	10	150	143	164	150	195	182	187	145	[illegible]
	Total for the Province ...	84	84	19,466	17,078	9,992	8,570	9,192	8,989	7,747	6,577	[illegible]

DIX I—*contd.*

of Orissa Province during each month of the year 1939.

					6			7			8	1
					Total.			Ratio of deaths per 1,000 of population.				
August.	September.	October.	November.	December.	Male.	Female.	Total.	Male.	Female.	Total.	Mean ratio per 1,000 of previous five years.	No.
2,502	2,399	1,917	2,401	2,664	14,015	15,384	29,399	13·68	13·39	13·51	14·24	1
1,995	1,267	1,459	1,500	1,645	8,561	9,087	17,648	17·82	17·82	17·82	19·81	2
1,085	898	829	1,087	1,394	6,183	6,889	13,072	12·36	12·88	12·(3	11·17	3
1,704	1,681	1,391	1,536	1,694	7,987	7,828	15,815	15·30	14·40	14·84	...	4
375	329	240	246	243	1,682	1,622	3,304	24·49	22·60	23·52	...	5
217	223	170	161	169	1,037	1,113	2,150	25·78	26·47	26·13	...	6
1,993	1,519	1,284	1,253	1,718	8,914	8,975	17,889	15·34	12·69	13·88	...	7
167	147	154	174	119	978	853	1,831	7·44	6·31	6·87	...	8
32	25	25	23	23	115	121	236	8·32	8·69	8·50	...	9
199	172	179	197	142	1,093	974	2,067	7·52	6·53	7·02	...	
9,423	8,488	7,469	8,481	9,669	49,472	51,872	101,344	14·70	13·99	14·33	...	

ANNUAL FORM NO. X.—*Deaths registered from dysentery and diarrhoea in the distri[illegible]*

1	2	3		4								
No.	Districts.	Circles of registration.		Villages.								
		Number in each district.	Number from which deaths from dysentery and diarrhoea were reported.	Number in each district.	Number from which deaths from dysentery and diarrhoea were reported.	January.	February.	March.	April.	May.	June.	July.
1	Cuttack ...	18	18	5,506	1,529	914	705	774	610	685	526	[illegible]
2	Balasore ...	10	10	3,479	298	67	45	56	42	46	28	[illegible]
3	Puri ...	6	6	2,987	1,327	481	377	368	312	278	321	[illegible]
4	Sambalpur ...	27	27	3,094	866	106	92	120	105	91	190	[illegible]
5	Angul ...	5	4	467	48	6	6	5	2	2	5	[illegible]
6	Khondmals ...	4	3	1,141	10	...	...	...	2	3	...	[illegible]
7	Ganjam Plains ...	9	9	2,642	1,181	179	65	131	140	164	171	[illegible]
	AGENCY DISTRICTS.											
8	Ganjam ...	4	4	144	54	2	7	5	7	9	2	[illegible]
9	Koraput ...	6	6	6	6	3	2	...	...	4	3	[illegible]
	Total of Agency districts	10	10	150	60	5	9	5	7	13	5	[illegible]
	Total for the Province	84	82	19,466	5,264	1,708	1,299	1,459	1,220	1,232	1,176	[illegible]

[?]IXI—*contd.*

[?] Orissa Province during each month of the year 1939.

August.	September.	October.	November.	December.	6 Total. Male.	Female.	Total.	7 Ratio of deaths per 1,000 of population. Male.	Female.	Total.	8 Mean ratio per 1,000 of previous five years.	1 No.
1,079	984	774	721	766	4,587	4,540	9,127	4·46	3·95	4·19	4·42	1
51	50	49	44	54	330	267	597	0·68	0·52	0·60	0·61	2
442	365	213	229	241	2,058	1,858	3,916	4·11	3·47	3·78	3·83	3
268	277	179	109	103	904	791	1,695	1·73	1·46	1·59	...	4
7	10	5	5	5	31	30	61	0·45	0·42	0·44	...	5
1	...	4	...	...	8	3	11	0·20	0·07	0·13	...	6
278	178	120	99	130	996	892	1,888	1·72	1·26	1·47	...	7
17	4	10	3	6	43	34	77	0·33	0·25	0·29	...	8
6	4	2	...	...	15	16	31	1·08	1·15	1·12	...	9
23	8	12	3	6	58	50	108	0·40	0·34	0·37	...	
2,139	1,872	1,356	1,210	1,305	8,972	8,431	17,403	2·66	2·27	2·46	...	

ANNUAL FORM No. XI.—*Deaths registered from respiratory diseases in the*

1	2	3		4								
No.	Districts.	Circles of registration.		Villages.								
		Number in each district.	Number from which deaths from respiratory diseases were reported.	Number in each district.	Number from which deaths from respiratory diseases were reported.	January.	February.	March.	April.	May.	June.	July.
1	Cuttack	13	13	5,506	756	142	123	113	105	105	67	[illegible]
2	Balasore	10	10	3,479	26	9	9	13	7	7	8	[illegible]
3	Puri	6	6	2,987	201	107	100	100	102	84	83	[illegible]
4	Sambalpur	27	27	3,094	664	107	99	99	92	85	83	[illegible]
5	Angul	5	4	467	10	3	1	...	4	2	...	...
6	Khondmals	4	2	1,141	4	...	1	2	...	2	...	...
7	Ganjam Plains	9	9	2,642	743	87	67	80	69	63	56	[illegible]
	AGENCY DISTRICTS.											
8	Ganjam	4	4	144	42	4	10	5	6	8	5	[illegible]
9	Koraput	6	4	6	4	3	2	2	...	4	2	[illegible]
	Total of Agency districts ...	10	8	150	46	7	12	7	6	7	7	[illegible]
	Total for the Province ...	84	79	19,466	2,450	462	412	414	385	355	304	[illegible]

...IX I—*contd.*

...tricts of Orissa Province during each month of the year 1939.

					6			7			8	1
					Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	No.
August.	September.	October.	November.	December.	Male.	Female.	Total.	Male.	Female.	Total.		
127	93	102	110	133	742	570	1,312	0·72	0·50	0·60	0·63	1
5	5	3	8	10	59	35	94	0·12	0·07	0·09	0·09	2
83	70	72	97	86	542	522	1,064	1·08	·98	1·03	1·15	3
106	114	92	90	99	773	391	1,164	1·48	0·72	1·09	...	4
...	2	3	...	2	14	3	17	0·20	0·04	0·12	...	5
...	...	...	...	...	4	1	5	0·10	0·02	0·06	...	6
66	94	75	107	94	537	403	940	0·93	0·57	0·73	...	7
5	4	7	8	6	45	24	69	0·34	0·18	0·26	...	8
...	4	5	2	6	21	10	31	1·52	0·72	1·12	...	9
5	8	12	10	12	66	34	100	0·45	0·23	0·34	...	
392	386	359	422	436	2,737	1,959	4,696	0·81	0·53	0·66	...	

ANNUAL FORM No. XII.—*Deaths registered from plague in the*

1	2	3		4							
No.	Districts.	Circles of registration.		Villages.							
		Number in each district.	Number from which deaths from plague were reported.	Number in each district.	Number from which deaths from plague were reported.	January.	February.	March.	April.	May.	June.
				Nil.							

DIX I—*concld.*

districts of Orissa Province during each month of the year 1939.

						6			7			8	1
						Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	No.
July.	August.	September.	October.	November.	December.	Male.	Female.	Total.	Male.	Female.	Total.		
							Nil.						

APPENDIX II.

PROVINCIAL.

Statement showing details of registration in areas in which it is compulsory.

Compulsory registration area.	Population according to census of 1931.	Probable number of births at the rate of 286 per 1,000 married women between the ages of 15 and 40.	Actual number of births registered during the year.	Probable birth-rate per mille (columns 2 and 3).	Registered birth-rate per mille during the year.	Number of deaths registered during the year. Including deaths in dispensary.	Number of deaths registered during the year. Excluding deaths in dispensary.	Death rate per mille. Including deaths in dispensary.	Death rate per mille. Excluding deaths in dispensary.	Number of persons prosecuted under Act IV (B. C.) of 1873.	Number of persons convicted.
1	2	3	4	5	6	7	8	9	10	11	12
Cuttack	65,263	Not available.	1,161	Not available.	17·79	1,286	880	19·70	13·48	...	...
Kendrapara	12,620		314		24·88	467	433	37·00	34·31	...	...
Jajpur	10,673		171		16·02	179	168	16·77	15·74	...	...
Balasore	17,843		275		15·41	447	366	25·05	20·51	...	...
Puri	37,568		1,050		27·95	1,506	1,247	40·09	33·19	8	[illegible]
Sambalpur	15,017		392		26·10	391	324	26·04	22·24	...	...
Berhampur	37,750		1,632		43·23	1,104	976	29·25	25·85	...	...
Parlakimedi	20,072		710		35·37	496	442	24·71	22·02	...	...
Total ...	216,806	...	5,705	...	26·31	5,876	4,846	27·10	22·35	8	[illegible]

APPENDIX III.

Table showing health services in rural and urban

District Board.	Rural areas. Medical officers of Health: Holding D. P. H.		Licentiates L. P. Hs.		Epidemic staff.	Sanitary and Health Inspectors.	Vaccinators.		School Medical Officers.	Other Health staff.
	Whole time.	Part time.	Whole time.	Part time.			Male.	Female.		
1	2	3	4	5	6	7	8	9	10	11
Cuttack	1	...	...	...	19	8	84	...	...	[illegible]
Balasore	1	...	...	...	1	7	48	...	...	9
Puri	1	...	...	...	9	5	34	...	...	1
Sambalpur	...	...	...	...	...	30	...	...	..	3
Ganjam	1	...	...	...	...	9	19	6	...	...
Koraput	...	...	1	...	...	7	25	1	...	...
Orissa Province ...	...	...	...	...	...	...	...	...	2	...

DIX III.

areas of Orissa Province during the year 1939.

Municipalities.	Urban area. Medical officers of Health: Holding D. P. H.: Whole time.	Part time.	Licentiates L. P. Hs.: Whole time.	Part time.	Sanitary and Health Inspectors.	Vaccinators: Male.	Female.	Inspector of Vaccination.	School Medical Officers.	Other Health staff.
12	13	14	15	16	17	18	19	20	21	22
Cuttack	1	...	...	...	4	9	2	1	...	12
Kendrapara ...	...	...	1	...	...	1	...	...	...	2
Jajpur	...	...	...	...	1	...	...	...	...	...
Balasore	...	...	...	...	1	1	...	...	...	...
Puri	1	...	...	...	2	2	1	...	...	6
Sambalpur	...	...	...	...	2	1	...	1	...	...
Berhampur ...	...	...	1	...	2	1	1	...	...	...
Parlakimedi ...	...	...	...	...	1	1	...	...	...	2
...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...

APPENDIX IV.

Table showing maternity and child welfare centres, health visitors and trained midwives in rural and urban areas in Orissa during 1939.

District.	Maternity and child welfare.												Remarks.
	Centres maintained by—						Trained visitors.		Trained midwives.		Trained *dais*.		
	Government.		Local and municipal bodies.		Other agencies.								
	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cuttack ...	...	...	...	...	...	1	...	1	...	1	5	7	
Balasore ...	...	...	...	1	...	...	...	1	...	4	2	...	
Puri	...	...	1	1	...	...	...	...	1	1	...	1	
Sambalpur ...	...	...	...	1	...	...	...	1	...	...	...	1	
Ganjam ...	...	...	1	1	...	1	...	...	4	8	...	...	
Koraput ...	...	...	...	...	1	...	...	...	9	...	8	...	
Total ...	...	...	2	4	1	2	...	3	14	9	10	9	

STATEMENT No. I.

STATEMENT No. I.--*Showing particulars of vaccination in the*

Number.	District.		Population of district according to the census of 1931.	Average number of vaccinators employed throughout the season.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary
					Male.	Female.	Total.		Total.
1	2		3	4	5	6	7	8	9
1	Cuttack ...	District excluding towns ...	2,176,707	48	110,527	57,254	167,781	3,495	56,237
		Towns		11	23,146	12,167	35,313	3,210	1,578
2	Balasore ...	District excluding towns ...	990,600	25	35,938	22,720	58,658	2,346	28,0[illegible]
		Towns		1	1,611	714	2,325	2,325	99
3	Puri	District excluding towns ...	1,035,154	39	49,252	23,765	73,017	1,872	30,116
		Towns		3	6,463	3,284	9,747	3,249	2,589
4	Sambalpur ...	District excluding towns ...	1,075,610	77	74,523	29,850	104,373	1,317	20,012
		Towns		3	2,904	1,339	4,243	1,414	655
5	Angul		140,458	7	5,771	3,456	9,227	1,318	5,172
6	Khondmals		82,278	4	4,581	3,440	8,021	2,005	2,188
7	Ganjam ...	District excluding towns ...	1,555,135	38	82,024	71,769	153,793	4,047	50,903
		Towns		4	8,952	8,028	16,980	4,245	1,662
8	Koraput		953,617	26	30,215	23,018	53,233	2,047	30,717
	Total of Vaccine Department.	District excluding towns ...	8,009,559	264	392,831	235,272	628,103	2,379	223,982
		Towns		22	43,076	25,532	68,608	3,119	7,115
		Total		286	435,907	260,804	696,711	2,436	231,097
	Jails ...		...	...	5,671	309	5,980	...	59
	Total of Railway Dispensary ...		...	...	128	55	183	...	58
	Cooly Depot ...		...	...	2,174	1,227	3,401	...	...
	Grand Total ...		...	...	443,880	262,395	706,275	...	231,214

district of Orissa during the year 1939-40.

Vaccination.				Re-vaccination.			Percentage of successful cases in which the results were known.					
Successful.												
Under one year.	One year and under six years.	Total of all ages.	Unknown.	Total.	Successful.	Unknown.	Primary.	Re-vaccination.	Persons successfuly vaccinated per 1,000 of population.	Total cost of Vaccination Department.	Number of all successful vaccinations and re-vaccinations performed by the vaccination staff only.	Average cost of each successful case performed by the vaccination staff.
10	11	12	13	14	15	16	17	18	19	20	21	22
										Rs. a. p.		Rs. a. p.
19,897	26,5 4	52,681	2,782	111,444	6,773	59,650	98·37	57·43	33·51	2,915 14 9	72,944	0 0 7½
248	1,487	1,926	34	33,335	11,363	11,072	99·07	51·04				
4,273	18,510	26,010	2,156	30,159	12,581	15,157	98·74	86·53	40·10	876 13 0	39,727	0 0 4
117	139	263	...	2,062	463	129	100·00	23·95				
1,882	17,130	23,621	5,406	42,901	17,738	17,087	95·59	68·71	43·46	547 0 0	44,992	0 0 2
75	2,118	2,470	49	7,158	811	735	97·48	12·63				
15,820	8,136	19,895	138	84,301	44,356	27,645	99·80	78·29	63·25	6,886 9 9	67,402	0 1 7½
211	392	607	18	3,618	2,261	828	100·00	81·04				
3,925	1,902	5,148	15	4,055	2,253	233	99·83	58·95	52·69	934 10 0	7.401	0 2 0
1,389	647	2,039	95	5,855	3,550	713	98·45	69·44	67·93	1,815 4 0	5,589	0 5 2
15,916	26,172	43,811	4,518	102,890	46,396	15,093	94·53	52·84	65·64	28,321 15 3	102,982	0 4 5
782	762	1 590	38	15,320	10,035	1,289	98·03	71·52				
4,988	19,269	26,774	3,084	22,516	8,617	4,871	96·89	48·84	37·15	19,121 7 4	35,796	0 8 6½
67,290	113,580	199,979	18,234	404,121	142,664	180,479	97·20	63·79	46·94	61,419 10 1	375,933	0 2 7
1,433	4,888	6,862	139	61,493	24,933	14,053	98·37	52·56				
6[illegible],823	118,468	206,841	18,373	465,614	167,597	194,532	97·23	61·83				
10	5	32	25	5,921	1,403	741	94·12	27·08	...	...	...	...
4	54	58	...	125	2	9	100·00	1·72	...	...	...	...
...	...	...	...	3,401	...	...	...	...	...	...	...	...
68,837	118,527	206,931	18,398	475,061	169,002	195,282	97·23	60·41	46·94	61,419 10 1	375,933	0 2 7

SUMMARY.

—	Total number of persons vaccinated.		Total number of operations performed.		Percentage of successful cases in which the results were known.		Average number of persons vaccinated by each vaccinator.		Number of children successfully vaccinated.		Ratio of successful vaccinations per 1,000 of population.	Total cost of vaccination department.	Average cost of each successful case.
	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Vaccinators employed.	Persons vaccinated by each vaccinator.	Under one year.	One year and under six years.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
												Rs. a. p.	Rs. a. p.
BY SPECIAL STAFF.													
Statement (I)	231,097	465,614	231,097	465,614	97·23	61·83	286	2,436	68,823	118,468	46·94	61,419 10 1	[illegible]
BY OTHER AGENCIES.													
Jails, railway dispensaries and cooly depot.	117	9,447	117	9,447	97·83	16·15	...	...	14	59			
Total ...	231,214	475,061	231,214	475,061	97·23	60·41	286	2,436	68,837	118,527	46·94	61,419 10 1	[illegible]

Comparative Statement No. II.—Showing the percentage of persons primarily vaccinated to the total number of vaccinations performed in the Province of Orissa in each of the undermentioned official years.

Establishments.	Years.									
	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.	1939-40.
1	2	3	4	5	6	7	8	9	10	11
Government staff	55·04	83·90	88·53	66·08	44·57	47·84	48·89	37·61	47·93	44·17
Municipal	62·21	66·46	33·24	19·81	19·01	22·10	25·42	28·84	14·25	10·37
District Board	82·84	77·91	71 35	34·06	37·22	31·01	23·78	24·38	28·27	25·36
Licensed vaccinators ...	88·20	93·27	79·78	78·30	68·82	65·78	62·24	65·70	64·62	54·97
Railways	...	...	...	...	...	...	...	...	17·68	31·69
Jails	...	...	0·44	0·99	0·44	...	1·31	1·74	1·13	0·99
Seedy depot	...	...	...	...	8·12	...	3·70	...	...	...

Statement No. III.—Showing particulars of vaccination [heading cut off at right edge]

District.	Total number of persons vaccinated.		Total number inspected— By Assistant Directors of Public Health or Superintendents of vaccination. Assistant Directors of Public Health.		Superintendents of Vaccination.		By native Superintendents or other Inspecting Officers. District Inspectors and Health Inspectors.		Sub-Inspectors.		Percentage of— By Assistant Directors of Public Health or Superintendents of Vacci[nation] Assistant Directors of Public Health.	
	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.
1	2	3	4	5	6	7	8	9	10	11	12	13
Cuttack	53,36[illegible]	146,711	4,061	453	5,139	845	2,845	998	6,621	3,525	6·96	[illegible]
Balasore	28,762	32,944	...	...	6[illegible]	112	728	2,126	1,143	756	...	...
Puri	32,708	50,908	...	...	1,412	1,735	...	...	6,257	4,077	...	...
Sambalpur	20,700	89,176	...	...	1,290	4,863	2,390	4,025	3,025	7,780	...	...
Angul	5,172	4,055	...	...	...	...	777	830	2,483	1,515	...	...
Khondmals ...	2,166	5,855	66	273	66	274	...	...	487	3,024	3·05	[illegible]
Ganjam	52,571	118,770	574	16	2,331	399	42,293	59,696	8,712	51,895	* 1·09	[illegible]
Koraput	30,775	26,642	...	...	180	33	21,988	13,972	5,738	3,676	...	...
Total ...	[illegible]31,214	475 061	4,701	742	1[illegible],478	8,261	71,[illegible]31	81,647	33,466	7[illegible],249	2·03	[illegible]

verified by Inspecting Officers during the year 1939-40.

inspection to total number vaccinated.						Percentage of cases found successful to total number inspected—								Percentage of successful cases reported by Vaccinators.	
tors of Public Superintendents nation.		By native Superintendents or other Inspecting Officers.				By Assistant Directors of Public Health or Superintendents of Vaccination.				By native Superintendents or other Inspecting Officers.					
Superintendents of Vaccination.		District Inspectors and Health Inspectors.		Sub-Inspectors.		Assistant Directors of Public Health.		Superintendents of Vaccination.		District Inspectors and Health Inspectors.		Sub-Inspectors.			
Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
8·81	0·58	4·87	0·68	11·35	2·40	99·78	...	97·32	14·32	94·34	25·25	96·48	31·04	98·39	51·33
0·21	0·34	2·57	6·45	3·97	2·29	...	...	100·00	23·21	94·31	59·74	94·14	59·92	98·75	73·6
4·22	3·41	...	...	19·23	8·01	...	...	98·30	60·23	...	...	88·19	55·38	95·77	57·37
6·23	5·45	11·55	4·51	14·61	8·72	...	...	96·12	49·23	98·93	47·40	93·65	71·29	99·81	77·33
...	...	15·02	20·47	28·67	37·36	...	...	...	...	99·23	56·02	98·65	51·16	99·83	58·95
3·05	4·68	...	...	22·45	51·65	100·00	...	100·00	58·03	...	...	98·56	89·85	98·45	69·44
4·43	0·34	80·45	50·26	16·57	43·69	99·83	100·00	94·55	54·14	88·60	45·00	95·25	61·86	94·65	55·41
0·58	0·12	71·45	52·44	18·65	13·80	...	...	98·33	39·39	96·53	51·55	96·81	38·47	96·90	41·20
4·53	1·74	30·72	17·19	14·47	16·05	99·79	2·16	96·98	48·11	91·64	45·03	94·43	60·80	97·23	60·41

STATEMENT No. IV.—*Showing side by side the ratios per mille of population of deaths from smallpox*

District.	1930-31.		1931-32.		1932-33.		1933-34.	
	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.
1	2	3	4	5	6	7	8	9
Cuttack	0·50	19·61	0·44	27·64	1·14	21·24	3·30	20·76
Balasore	0·29	40·12	0·13	40·02	0·40	44·92	1·09	35·10
Puri	0·06	45·27	0·26	44·41	1·87	47·29	4·38	57·07
Sambalpur	0·76	29·87	1·40	30·28	1·31	23·60	0·72	24·34
Angul	...	41·10	...	39·90	0·07	36·22	0·01	56·76
Khondmals	...	33·59	...	39·50	...	36·56	0·01	63·39
Ganjam	0·07	30·27	0·06	31·75	0·06	41·43	0·06	52·20
Koraput	0·23	30·44	0·05	33·48	0·04	36·44	0·08	36·69
Total ..	0·17	27·56	0·21	32·83	0·72	33·46	1 23	36 12

and the ratios of successful vaccinations per mille of population during the ten years ending 1939-40.

1934-35.		1935-36.		1936-37.		1937-38.		1938-39.		1939-40.	
Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.
10	11	12	13	14	15	16	17	18	19	20	21
2·20	25·55	1·12	24·13	0·27	22·33	0·16	22·38	0·06	80 04	1·82	83·51
0·54	41·46	0·29	48·96	0·41	39·92	0·55	41·35	0 05	34·82	0·18	40·10
2·06	59·88	0·66	24·25	0·17	32·97	0·06	39·99	0·06	87·59	0·21	43·46
1·18	26·26	1·84	27·30	0·25	88·94	0·01	89·28	...	104·19	0·12	63·25
0·28	57·24	0·05	61·73	...	85 22	...	40·15	0·01	101·02	0·04	52 69
0·24	56·59	0·06	27·99	1·22	86·52	0·66	85·24	0·05	47·22	...	67·93
0·04	42·24	0·09	41·25	0·29	58·63	0·26	60·82	0·23	49·78	0·14	65·64
0·12	30·98	0·26	40·40	0·83	45·56	0·10	39·21	0·22	38·49	0·01	37·15
1·11	34·64	0·64	32·89	0·29	45·45	0 19	46·35	0·11	47·74	0·59	46·94

STATEMENT NO. V—*Showing the protection afforded to infants in each town in the Province of Orissa during the year 1939-40.*

District.	Towns.	Number of births during the year ending 31st March 1940.	Number of deaths amongst infants under one year during the year ending 31st March 1940.	Number of successful vaccinations amongst infants under one year during the year ending 31st March 1940.	Date of extension of vaccination Act to town.
1	2	3	4	5	6
Cuttack ...	Cuttack ...	1,322	229	162	1st September 1884.
	Kendrapara ...	304	75	83	7th February 1888.
	Jajpur ...	183	17	3	Ditto.
	Total ...	1,809	321	248	
Balasore ...	Balasore ...	309	58	117	7th February 1888.
Puri	Puri	1,023	258	75	Ditto.
Sambalpur ...	Sambalpur ...	382	61	211	7th March 1895.
Ganjam ...	Berhampur	1,469	200	300	24th June 1921.
	Parlakimedi ...	691	96	482	Ditto.
	Total ...	2,160	296	782	
	Total for the Province	5,688	994	1,433	

ANNEXURE II.

ANNEXURE

Provincial statement showing the different kinds of lymph

District.	Primary vaccination.											
	Direct from calf.					With lanoline or glycerine lymph.					Arm-to-arm	
	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.
1	2	3	4	5	6	7	8	9	10	11	12	13
Cuttack	...	...	...	...	...	58,360	54,680	892	2,838	98·39	...	...
Balasore	...	...	...	...	..	28,762	26,273	333	2,156	98·75	...	...
Puri	...	...	...	...	...	32,708	26,099	1,154	5,455	95·77	...	...
Sambalpur	...	...	...	...	...	20,700	20,502	39	159	99·81	...	...
Angul	...	...	...	...	...	5,172	5,148	9	15	99·83	...	...
Khondmals	...	...	...	...	...	2,166	2,039	32	95	98·45	...	...
Ganjam	...	...	...	...	...	52,571	45,408	2,567	4,596	94·65	...	...
Koraput	...	...	...	...	...	30,775	26,832	859	3,084	96·90	...	...
Total ...	...	...	...	...	...	231,214	206,931	5,885	18,398	97·23	...	...

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II.

used and their rates of success during the year 1939-40.

			Re-vaccination.														
vaccination.			Direct from calf.					With lanoline on glycerine lymph.					Arm-to-arm vaccination.				
Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
...	...	...	...	...	...	...	...	146,711	18 814	17,363	111,034	51·33	...	...	...	...	...
...	...	...	...	...	...	...	...	32,944	13,454	4,102	15,388	76·63	...	...	...	...	...
...	...	...	...	...	...	...	...	50,908	18,893	14,038	17,977	57·37	...	...	...	...	...
...	...	...	...	...	...	...	...	89,176	46,900	13,750	28,526	77·33	...	...	...	...	...
...	...	...	...	...	...	...	...	4,055	2,253	1,569	233	58·95	...	...	...	...	...
...	...	...	...	...	...	...	...	5,855	3,550	1,562	743	69·44	...	...	...	...	...
...	...	...	...	...	...	...	...	118,770	56,674	45,602	16,494	55·41	...	...	...	...	...
...	...	...	...	...	...	...	...	26,642	8,964	12,791	4,887	41·20	...	...	...	...	...
...	...	...	...	...	...	...	...	475,061	169,002	110,777	195,282	60·41	...	...	...	...	...

No. 819-L. S.-G.

GOVERNMENT OF ORISSA.

HEALTH AND LOCAL SELF-GOVERNMENT DEPARTMENT.

RESOLUTION.

Cuttack, the 11th March 1941.

READ —

Annual Public Health Report for the year 1939 and the Vaccination Report for 1939-40.

During the year under report there was a rise in the total number of births and a decrease in the number of deaths. Fever, which includes malaria, continues to be the chief cause of the heavy mortality. The provincial birth-rate rose from 33·76 in 1938 to 34·92 per mille during the year under review. This improvement was partly due to the lower incidence of malaria and partly to the absence of high floods and to better harvest. Both the birth and death-rates continued to be higher in the rural areas than in the urban. The present method of collection and registration of vital statistics is incomplete and unsatisfactory and no arrangement for such collection exists in the Agency areas. The possibility of replacing it by a better system throughout the province, including the partially-excluded areas, is being examined.

The rate of infant mortality was lower than in the previous year. Government trust that by extension of maternity and child-welfare work appreciable results can be achieved in this sphere of Public Health and they take this opportunity of inviting the attention of the local bodies to this important matter.

Government note with pleasure that during the year under review the rigour of malaria has been less severe than in the preceding year. During the year under review Government appointed a qualified Malaria Officer of provincial status with special training in malariology, and a staff consisting of one Assistant Malaria Officer, one laboratory assistant, two insect collectors and a peon. The staff worked in the coastal area of the Chilka Lake in collaboration with the Malaria Unit deputed by the Director of the Malaria Institute of India. The investigations into the life history of the weeds in the Chilka Lake, which were started in the previous year by Mr. P. Parija, M.A., I.E.S., were continued during the year under review. Government also made grants to the Kendrapara Municipality and the District Board of Balasore for undertaking anti-malarial schemes. Similar operations were also carried on at the expense of Government at different centres in the district of Koraput with excellent results. Some anti-malarial work was also undertaken in the Municipalities of Cuttack and Puri with substantial financial aid from Government. Over and above the provisions which the District Boards concerned made in their budgets for purchase of quinine for free distribution in malarious areas, 34 pounds of quinine were supplied free for distribution by the Public Health Department.

A regrettable feature of the year under review was the abnormal rise in the incidence of cholera, mainly attributable to the absence of any system of water-supply in the rural areas of the province. In his report the Director of Health and Inspector-General of Prisons, Orissa, has made an earnest appeal to the local bodies concerned to tackle this problem by planning a well thought out scheme of constructing deep masonry or cement-concrete wells. Government endorse his appeal and trust that those who have taken upon themselves the responsibility of administering local affairs should keep in the forefront of any programme of rural reconstruction the need for supplying wholesome drinking water in rural areas.

The incidence of smallpox, although less severe than in the preceding year, was still high especially in the district of Cuttack. The need for a system of compulsory vaccination is emphasized by the very satisfactory results achieved in the Khondmals where a system of free and compulsory vaccination is enforced at the expense of Government and the incidence of the disease has been reduced from 1·6 in 1937 to 0·1 in 1938 and to ·01 in 1939. A partial scheme of compulsory vaccination for the districts of Cuttack and Balasore has since been sanctioned by Government on the lines now obtaining in the district of Puri.

No case of plague was reported and the incidence of dysentery, diarrhoea and respiratory diseases was also less severe than in the preceding year. With a view to combating the growing menace of tuberculosis of model clinic is being established at Cuttack in accordance with the expert advice tendered by Dr. Frimoldt Muller, the Tuberculosis Commissioner for India. A lady visitor was appointed under the auspices of the Provincial Anti-Tuberculosis Association. The anti-leprosy campaign initiated by Government and the experiments with *isolation* that are being carried on as part of the scheme are reported to have far-reaching importance not only for Orissa but for the whole of India. Intensive propaganda and extensive health survey of villages were the main features of the work done during the year under review.

The Provincial Bacteriological Laboratory which was established in the previous year continued to function efficiently. The increasing demand for the services of the laboratory necessitated the appointment of additional staff and Government sanctioned the post of an Assistant Public Health Chemist. The further strengthening of the staff is under consideration. The demand for increased accommodation due to the gradual development of the laboratory is being met by structural alterations to the main buildings of the Examination Hall, which is proposed to be utilised for holding the Pathology Practical Class. The work of the laboratory is likely to increase with enforcement of the Orissa Food Adulteration Act and the rules framed thereunder.

The staff employed by Government for the medical examination of school children was made more efficient by the appointment of an Assistant Surgeon in the post of the School Medical Officer in which a Sub-Assistant Surgeon was officiating previously. This examination has produced salutary effects on the general health of the students and Government are glad to note that there has been a good response to the expert instructions regarding the benefits of balanced diet given to the students. An experiment is being made of including a medical man on the teaching staff of the high schools in Orissa who can give regular instruction on hygiene and watch over the physical development of the students and this experiment has so far yielded successful results. A scheme for the medical examination of the girls reading in schools in important towns has been sanctioned and put into operation recently. A proposal to levy a nominal fee for the examination of boys is under consideration.

Health propaganda on various subjects was carried on by the Public Health staff throughout the year. It is encouraging to learn that there has been some response in the establishment of health societies and health units on a voluntary basis. A travelling health and medical unit equipped with propaganda materials, which was established in 1937 in connection with opium prohibition work in the district of Balasore and was suspended for some time, was revived during the year under review.

It is reported that there is a good deal of adulteration of food-stuffs. Matters are likely to improve with effective control now that the rules under the Orissa Prevention of Adulteration and Control of Sale of Food Act have been approved. Government hope to be able to issue the rules under the Orissa Nurses and Midwives Act very soon.

Lt.-Col. G. Verghese, M.D., Ch.B., D.P.H., D.T.M., D.T.H., I.M.S., continued to hold the office of the Director of Health of Orissa during the year except for the period from the 21st May 1939 to the 10th September 1939 when Major P. L. O'Neill, F.R.C.S.E., D.L.O., I.M.S., was in charge. The thanks of Government are due to these officers for the keen and energetic manner in which they carried out their duties, particularly to Col. Verghese who has written a most interesting report which gives evidence throughout of the deep interest he has been taking in the public health problems of the province. Government also appreciate the work done by the officers and members of the staff of the Public Health Department and acknowledge the co-operation received from the local bodies in this connection during the year under review.

ORDER.—Ordered that a copy of this Resolution be published in the *Orissa Gazette* and copies be forwarded to the Revenue Commissioner and the Director of Health and Inspector-General of Prisons, Orissa.

By order of the Governor,

S. DAS,

Secretary to Government.